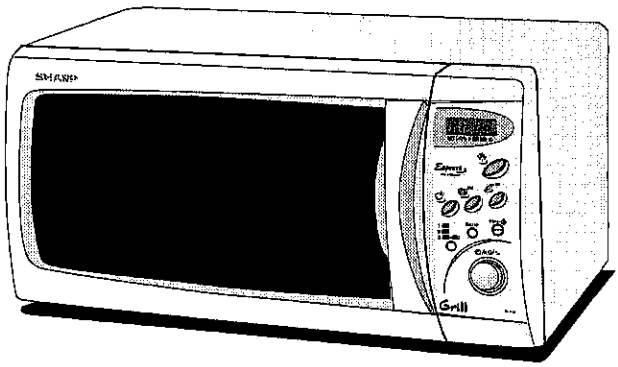
SHARP® SERVICE MANUAL

S40191R734EHW



GRILL AND MICROWAVE OVEN

MODELS

R-734(IN)
R-734(W)
R-734(W)F

In interests of user-safety the oven should be restored to its original condition and only parts identical to those specified should be used.

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SHARP CORPORATION

CAUTION
MICROWAVE RADIATION

Personnel should not be exposed to the microwave energy which may radiate from the magnetron or other microwave generating devices if it is improperly used or connected. All input and output microwave connections, waveguides, flanges and gaskets must be secured.
Never operate the device without a microwave energy absorbing load attached.
Never look into an open waveguide or antenna while the device is energized.

VARNING
MICKROVAGSSTRALING

Personal får inte utsättas för mikrovågsenergi som kan ustrala från magnetronen eller andre mikrovågsalstrande anordningar om dessa är felanslutna eller används på fel sätt. Alla in-och utgångsanslutningar för mikrovågor, vagledare, flänsar och packningar måste vara fast anslutna.
Mikrovågsgeneratorn får inte arbeta utan att absorberande belastning är ansluten. Titta aldrig in i ën öppen vågledare eller antenn när mikrovågsgeneratorn är påkopplad eller laddad.

VAROITUS
MIKROAALTOSÄTELYÄ

Käyttäjä ei saa joutua alttiiksi mikroaaltoenergialle, jota voi säteillä magnetronista tai muusta mikroaaltoja kehittävästä laitteesta, jos sitä käytetään tai jos se kytketään väärin. Kaikkien mikroaaltoliitäntöjen sekä syöttö-että ulostulopuolella, aaltoputkien laippojen ja tiivisteiden tulee olla varmistettuja.
Mikroaaltouunnia ei koskaan saa käyttää ilman kuormaa jossa mikroaaltoenergiaa kuluu. Avoimeen aaltoputkeen tai antenniin ei koskaan saa katsoa virran ollessa kytkettynä.

ADVARSEL
MIKROBØLGESTRÅLING

Personell må ikke utsettes for mikrobølge-energi som kan utståles fra magnetronen eller andre mikrobølge-generende deler dersom apparatet feilbetjenes eller blir feiltikoplet. Alle inn-og ut-tilkoplinger i forbindelse med mikrobølge-strålingen, bølgeledere, flenser og tetningsringer/pakninger må festes ordentlig.
Aldri bruk apparatet med mindre en mikrobålge-absorberende last er plassert i ovnsrommet.
Aldri se direkte inn i en åpen bølgeleder eller antenne imens apparatet er strømførende.

ADVARSEL
MIKROBØLGEBESTRÄLING

Man bør ikke udsætte sig for mikrobølgebestråling fra magnetronen eller andre mikrobølgefrembringende anordninger, hvilket kan ske hvis apparatet er forkert tilsluttet eller bruges forkert. Alle mikrobølgeindgange og-udgange, bølgeledere, flanger og tætningsstrimler må være forsvarligt udført.
Anvend aldrig ovnen uden en mikrobølgesabsorberende anordning. Se aldrig ind i en åben bølgeleder eller antenne, mens ovnen er i brug.

SERVICE MANUAL

SHARP

GRILL AND MICROWAVE OVEN

R-734(IN)/ R-734(W) R-734(W)F

GENERAL IMPORTANT INFORMATION

This Manual has been prepared to provide Sharp Corp. Service engineers with Operation and Service Information.

It is recommended that service engineers carefully study the entire text of this manual, so they will be qualified to render satisfactory customer service.

CAUTION
MICROWAVE RADIATION
DO NOT BECOME EXPOSED TO RADIATION FROM THE MICROWAVE GENERATOR OR OTHER PARTS THAT CONDUCT MICROWAVE ENERGY.

WARNING

Note:	The parts marked "*" are used in voltage more than 250V. (Parts List)
Anm:	Delar märket med "*" har en spänning överstigande 250V.
Huom:	Huolto-ohjeeseen merkitty "tähdella" osat joissa jännite on yli 250 V.
Bemerk:	Deler som er merket "asterisk" er utsatt for spenninger over 250V til jord.
Bemærk:	"Dele mærket med stjerne benyttes med højere spænding end 250 volt.

WARNING

Never operate the oven until the following points are ensured.
(A) The door is tightly closed.
(B) The door brackets and hinges are not defective.
(C) The door packing is not damaged.
(D) The door is not deformed or warped.
(E) There is not any other visible damage with the oven.

Servicing and repair work must be carried out only by trained service engineers.

All the parts marked "*" on parts list are used at voltage more than 250V.

Removal of the outer wrap gives access to potential above 250V.

All the parts marked "Δ" on the parts list may cause undue microwave exposure, by themselves, or when they are damaged, loosened or removed.

SHARP CORPORATION

OSAKA, JAPAN

SERVICING
PRODUCT SPECIFICATIONS
GENERAL INFORMATION
APPEARANCE VIEW
OPERATING SEQUENCE
FUNCTION OF IMPORTANT COMPONENTS
TROUBLESHOOTING GUIDE AND TEST PROCEDURE
TOUCH CONTROL PANEL
COMPONENT REPLACEMENT AND ADJUSTMENT PROCEDURE
TEST DATA AT A GLANCE
MICROWAVE MEASUREMENT
WIRING DIAGRAM
PARTS LIST

WARNING TO SERVICE PERSONNEL

(GB) Microwave ovens contain circuitry capable of producing very high voltage and current.
Contact with the following parts will result in electrocution
High voltage capacitor, High Voltage transformer, Magnetron, High voltage rectifier assembly, High voltage wires.

REMEMBER TO CHECK 3D

1) Disconnect the supply.
2) Door opened, and wedged open.
3) Discharge high voltage capacitor.

WARNING: AGAINST THE CHARGE OF THE HIGH-VOLTAGE CAPACITOR
The high-voltage capacitor remains charged about 60 seconds after the oven has been switched off. Wait for 60 seconds and then short-circuit the connection of the high-voltage capacitor (that is, of the connecting lead of the high-voltage rectifier) against the chassis with the use of an insulated screwdriver.

Sharp recommend that wherever possible fault-finding is carried out with the supply disconnected. It may in, some cases, be necessary to connect the supply after the outer case has been removed, in this event carry out 3D checks and then disconnect the leads to the primary of the high voltage transformer. Ensure that these leads remain isolated from other components and the oven chassis. (Use insulation tape if necessary.) When the testing is completed carry out 3D checks and reconnect the leads to the primary of the high voltagetransformer.

REMEMBER TO CHECK 4R

1) Reconnect all leads removed from components during testing.
2) Replace the outer case (cabinet).
3) Reconnect the supply.
4) Run the oven. Check all functions.

Microwave ovens should not be run empty. To test for the presence of microwave energy within a cavity, place a cup of cold water on the oven turntable, close the door and set the power to HIGH and set the microwave timer for two (2) minutes. When the two minutes has elapsed (timer at zero) carefully check that the water is now hot. If the water remains cold carry out 3D checks and re-examine the connections to the component being tested.

When all service work is completed, and the oven is fully assembled, the microwave power output should be checked and a microwave leakage test should be carried out.

(NL) Magnetronovens bevatten circuits die een zeer hoge spanning en stroom kunnen voortbrengen. Contact met de volgende onderdelen kan elektrocutie tot gevolg hebben.
Hoogspanningscondensator, hoogspanningstransformator, magnetron, hoogspanningsgelijkrichter, hoogspannings draden.

VERGEET DE VOLGENDE 3 STAPPEN NIET

1) Haal de stekker uit het stopcontact.
2) Open de deur en zorg ervoor dat hij niet dicht kan vallen.
3) Ontlaad de hoogspanningscondensator.

PAS OP VOOR DE ELECTRISCHE LADING VAN DE HOOGSPANNINGSCONDENSATOR
De hoogspanningscondensator blijft nog ongeveer 60 seconden lang opgeladen, nadat de oven is uitgeschakeld. Wacht 60 seconden voordat u de verbinding van de hoogspannings-condensator (m.a.w. de verbindingsdraad van de hoogspanningsgelijkrichter) met een geïsoleerde schroevedraaier kortsluit tegen het chassis.

Sharp beveelt ten sterkste aan dat, voor zover mogelijk, defecten worden opgespoord wanneer de stekker uit het stopcontact is gehaald. Soms is het nodig om de stroomtoevoer weer tot stand te brengen nadat de buitenmantel verwijderd is. Herhaal dan de bovengenoemde 3 stappen en haal de electrische draden uit de primaire zijde van de vermogenstransformator. Zorg ervoor dat deze draden geïsoleerd blijven van andere elementen en van het chassis van de oven. (Gebruik zo nodig isolatieband.) Wanneer de test is uitgevoerd, herhaalt u de bovenstaande 3 stappen en verbindt u de electrische draden weer aan de primaire zijde van de vermogenstransformator.

VERGEET DE VOLGENDE 4 STAPPEN NIET

1) Sluit de draden weer aan diezijn losgehaald voor de test.
2) Plaats de buitenmantel weer om het toestel heen (kabinet).
3) Stop de stekker weer in het stopcontact.
4) Zet de oven aan. Controleer alle functies.

Magnetronovens mogen niet leeg aangezet worden. Om te controleren of er microgolf-energie binnen de oven wordt geproduceerd, plaatst u een mok met koud water op de draaitafel van de oven, sluit de deur, zet de oven op HIGH en stelt de klok van de magnetron in op twee (2) minuten. Wanneer de twee minuten voorbij zijn (klok staat op nul), controleert u voorzichtig of het water heet is. Indien het water nog steeds koud is, herhaalt u de allereerste drie stappen en controleer nogmaals de aansluitingen naar de geteste onderdelen.

Wanneer alle reparaties zijn uitgevoerd en de oven weer in elkaar is gezet, moet de het magnetronvermogen worden gecontroleerd en moet worden gecontroleerd of er geen microgolflekkage is.

(E) Los hornos de microonda contienen el trazado de circuito capaz de producir muy de alto voltaje y actual El contacto con las piezas siguientes dará lugar a electrocutio. Para evitar elriesgo de electrocución, absténgase de tocar los siguientes componentes:Condensador de alto voltaje, tranformer de alto voltaje, magnetrón, ensamblaje de rectificador de alto voltaje, alambres de alto voltaje.

RECUERDE LA COMPROBACION 3D

1) Desconecte la alimentación.
2) Deje la puerta abierta y calzada.
3) Descargue el condensador de alto voltaje.

ADVERTENCIA SOBRE LA CARGA DEL CONDENSADOR DE ALTO VOLTAJE
El condensador de alto voltaje permanece cargado unos 60 segundos después de haber apagado el horno. Espere 60 segundos y luego ponga en cortocircuito la conexión del condensador de alto voltaje (esto es, del conductor de conexión del rectificador de alto voltaje) al chasis con un destornillador de mango aislado.

Se recomienda encarecidamente que siempre que sea posible la localización de fallos se realice con la alimentación desconectada. Puede ser que en algunos casos sea necesario conectar la alimentación después de haber retirado la carcasa exterior. En este caso, realice las comprobaciones 3D y luego desconecte los conductores del primario del transformador de alimentación. Asegúrese de que estos conductores permanezcan aislados de otros componentes y del chasis del horno. (Use cinta aislante si es necesario). Cuando termine la prueba efectúe las comprobaciones 3D y reconecte los conductores al primario del transformador de alimentación.

RECUERDE LA COMPROBACION 4C

1) Conecte todos los componentes desconectados de los componentes durante la prueba.
2) Coloque la carcasa exterior (cabina).
3) Conecte la alimentación.
4) Compruebe todas sus funciones despues de poner en marcha el horno.

Los hornos de microondas no deben funcionar vacíos. Para comprobar la presencia de energía de microondas dentro de una cavidad, coloque una taza de agua fría en el plato giratorio del horno, cierre la puerta y ponga la potencia en HIGH (alta) y coloque el temporizador en dos (2) minutos. Cuando transcurran los dos minutos (temporizador a cero) compruebe cuidadosamente que el agua se ha calentado. Si el agua permaneciese fría, efectúe las comprobaciones 3D y vuelva a examinar las conexiones de los componentes que han sido probados.

Cuando haya terminado la intervención en el equipo y el horno haya sido ensamblado de nuevo completamente, deberá comprobar la potencia de salida de microondas y realizar una prueba de fugas de microondas.

(SV) Mikrovågsugnar ugnarna innehålla kretskippet duglig om producerande mycket hög spänningen och gångbar. Konktakten med det följande delen vill resultera inne dödsfall:
Hög spänningen kondensator, hög spänningen transformator, magnetron, hög spänningen likriktare, hög spänningen tråden.

KOM IHÅG ATT KONTROLLERA 3 STEG

1) Koppla från strömkällan.
2) Öppna dörren på gläntt.
3) Ladda ur högspänningskondensatorn.

VARNING FÖR LADDNINGEN I HÖGSPÄNNINGSKONDENSATORN
Högspänningskondensatorn är laddad i 60 sekunder efter det att ugnen stängts av. Vänta 60 sekunder och korislut sedan kondensatoms anslutning (dvs anslutningen till högspänningslikriktaren) till chassiet med hjälp av en isolerad skruvmejsel.

Sharp rekommenderar att felsökning sker med strömmen frånkopplad. Ibland kan det var nödvändigt att koppla på strömmen efter det att höljet avlägsnats, utför da 3 Steg kontrollen och koppla sedan från ledarna till transformatorns primärsida. Se till att ledarna är isolerade från andra komponenter och chassiet. (Använd isoleringsband om det behövs). När Du testat färdigt utför Du 3 Steg kontrollen och ansluter ledningarna till transformatorns primärsida igen.

KOM IHÅG ATT KONTROLLERA 4 STEG

1) Anslut alla ledningar som använts vid testning
2) Sätt tillbaka ytterhöljet.
3) Anslut strömkällan på nytt.
4) Sätt på ugnen. Kontrollera alla funktioner.

Mikrovågsugnar får inte användas tomma. Kontrollera mikrovågsstrålningen i olika delar av ugnen genom att placera en kopp med kallt vatten på ugnens tallrik, stäng dörren, ställ in HIGH och ställ in 2 minuter på timern. När två minuter har gått (timem visar 0) kontrollerar du om vattnet är varmt. Om vattnet fortfarande är kallt utför Du 3 steg kontroller och kontrollerar anslutningarna till varje enskild komponent på nytt.

När all service är klar och ugnen ihopskruvad skall ugnens uteffekt och eventuellt mikrovågsläckage kontrolleras.

(I) I forni a microonde contengono i circuiti capaci di produrre molto ad alta tensione e corrente Il contatto con le seguenti parti provocherà electrocution.

Condensatore ad alta tensione, tranformer ad alta tensione, magnetron, complessivo di raddrizzatore ad alta tensione, legare ad alta tensione.

TRE OPERAZIONI IMPORTANTI PER INCOMINCIARE

1) Scollegare l'alimentazione elettrica.
2) Verificare che la porta sia bloccata in posizione aperta.
3) Scaricare il condensatore ad alta tensione.

ATTENZIONE AL CONDENSATORE AD ALTA TENSIONE: PUO ESSERE CARICO
Il condensatore ad alta tensione rimane carico per circa 60 secondi dopo lo spegnimento del forno. Occorre quindi spettare 60 secondi prima di cortocircuitare, utilizzando un cacciavite con impugnatura isolata, il collegamento del condensatore ad alta tensione (cioè del conduttore di collegamento del raddrizzatore ad alta tensione) sul telaio del forno.

Sharp raccomanda, nei limiti del possibile, che la ricerca dei guasti avvenga in assenza di alimentazione elettrica. In alcuni casi tuttavia, può essere necessario alimentare l'apparecchio dopo aver rimosso la scatola esterna. In questo caso eseguire i tre controlli sopra citati e quindi scollegare i connettori dal primario del trasformatore. Assicurarsi che tali connettori non vengano a contatto con altri componenti, ne con il telaio del forno (fare uso, se necessario, di nastro isolante). Al termine dell'intervento, eseguire nuovamente i tre controlli e ricollegare i conduttori al primario del trasformatore.

QUATTRO VERIFICHE IMPORTANTI DA NON DIMENTICARE

1) Ricollegare tutti i conduttori staccati dai vari componenti durante l'intervento.
2) Rimontare la scatola esterna.
3) Ripristinare l'alimentazione elettrica.
4) Rimettere in funzione il forno. Controllare tutte le funzioni.

I forni a microonde non devono mai funzionare a vuoto. Per verificare la presenza di energia da microonde all'interno di una cavitá, mettere una tazza di acqua fredda sul piatto rotante del forno, chiudere la porta, regolare la potenza su HIGH ed impostate il temporizzatore su due (2) minuti. Trascorsi i due minuti (temporizzatore a zero), controllare accuratamente che ora l'acqua sia calda. Se l'acqua è rimasta fredda, eseguire i tre controlli iniziali e verificare nuovamente i collegamenti del componente in questione.

Dopo aver portato a termine le operazioni di manutenzione e rimontato il forno, è necessario controllare la potenza delle microonde emesse ed eseguire un test per verificare che non vi sia alcuna dispersione.

PRODUCT DESCRIPTION

SPECIFICATION

ITEM	DESCRIPTION
Power Requirements	230 Volts / 50 Hertz / Single phase, 3 wire earthed
Power Consumption	Microwave cooking 1.37kW Approx. 6.2 A Grill cooking 1.0 kW Approx. 4.3 A Dual cooking 2.35 kW Approx. 10.4 A
Power Output	900 W nominal of RF microwave energy (measured by method of IEC60705) Operatingfrequency 2450MHz
Grill heating element Power Output	1000 W
Case Dimensions	Width 520 mm Height 305 mm (including foot) Depth 440 mm
Cooking Cavity Dimensions	Width 342 mm Height 207 mm Depth 368mm
Turntable diameter	325mm
Control Complement	Jog Touch Control Clock (1:00 - 12:59 or 0:00 - 23:59) Timer (0 - 99 minutes) Microwave Power for Variable Cooking Repetition Rate; 100P ..... Full power throughout the cooking time 70P ..... approx. 70% of FULL Power 50P ..... approx. 50% of FULL Power 30P ..... approx. 30% of FULL Power 10P ..... approx. 10% of FULL Power EXPRESS DEFROST button EXPRESS COOK button EXPRESS MENU buttons + 1min / START button STOP button COOKING MODE button TIMER/ WEIGHT/ POWER knob
Net Weight	Approx. 16.5 kg

As part of our policy of continuous improvement, we reserve the right to alter design and specifications without notice.

GENERAL INFORMATION

WARNING

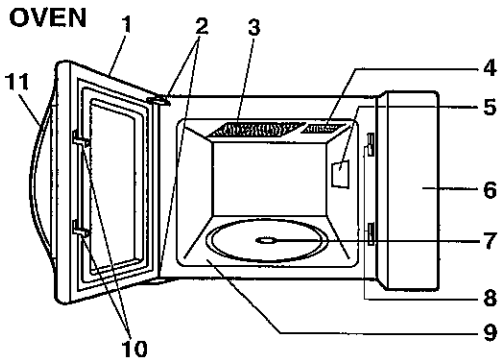
THIS APPLIANCE MUST BE EARTHED

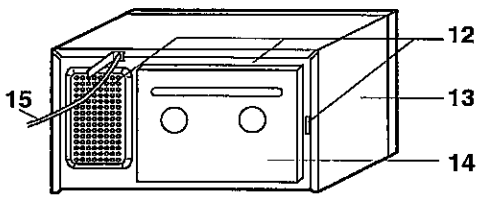
IMPORTANT

THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

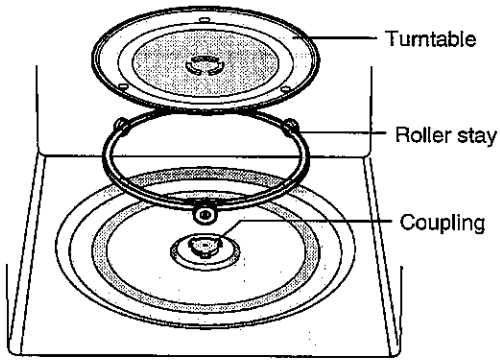
GREEN-AND-YELLOW	: EARTH
BLUE	: NEUTRAL
BROWN	: LIVE

APPEARANCE VIEW

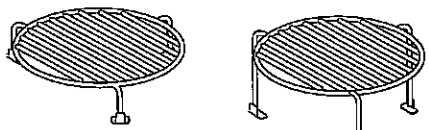




1. Door
2. Door hinges
3. Grill heater
4. Lamp filter
5. Waveguide cover
6. Control panel
7. Coupling
8. Door latches
9. Oven cavity
10. Safety door latches
11. Door handle
12. Ventilation openings
13. Outer case
14. Rear back plate
15. Power cord



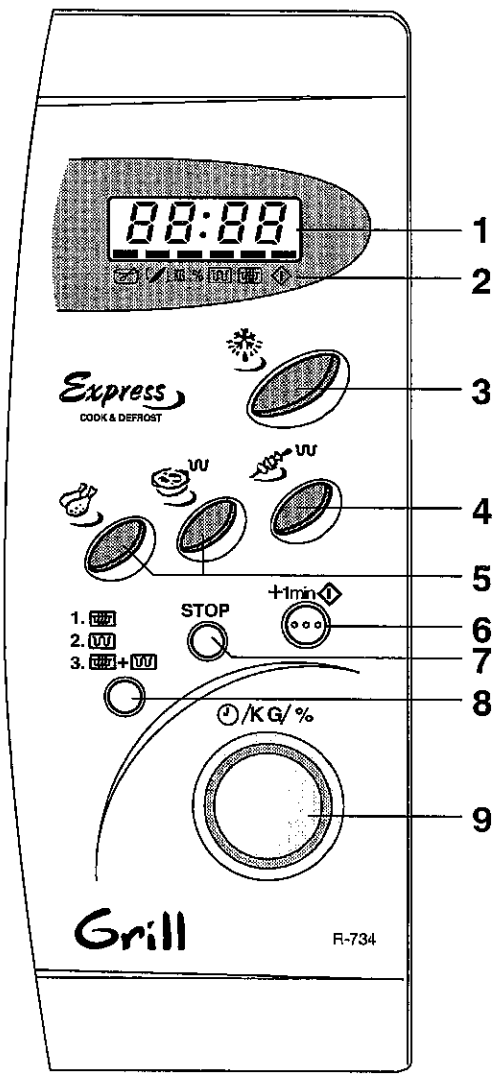
1. Place the roller stay on the floor of the oven cavity.
2. Then place the turntable on the roller stay so that it fits over coupling.



High and Low trivets

CONTROL PANEL

1. Digital Display
2. Symbols and Indicators
   The appropriate indicator will flash or light up, just above each symbol according to the instruction. When an indicator is flashing, press the suitable button (having the same symbol) or do the necessary operation.
   - Stir
   - Turn over
   - KG/% Weight/power level
   - Grill
   - Microwave
   - Cooking in progress
3. EXPRESS DEFROST button
   Press to select one of the 4 automatic defrosting programmes.
4. EXPRESS COOK button
   Press to select one of the 4 automatic cooking programmes.
5. EXPRESS MENU buttons
   Press to select one of the 4 automatic programmes.
6. 1 min / START button
   NOTE: The directed feature is disabled after three minutes when the oven is not used. This feature is automatically enabled when the door is opened and closed or the STOP button is pressed.
7. STOP button
8. COOKING MODE button
   Press to select either microwave, grill or dual grill, or use to set the clock.
   1. press once to select microwave function.
   2. press twice to select the grill.
   3. press three times to select dual grill mode, microwave with grill.
9. TIMER/WEIGHT/POWER knob



OPERATION SEQUENCE

OFF CONDITION

Closing the door activates all door interlock switches (monitored latch switch and stop switch).

IMPORTANT:

When the oven door is closed, the monitor switch contacts COM-NC must be open. When the microwave oven is plugged in a wall outlet (230V / 50Hz), the line voltage is supplied to the point A1+A3 in the control unit.

Figure O-1 on page 29

1. The display flashes "88:88".
2. To set the any programmes or set the clock, you must first press the STOP button.
3. " : " appears in the display.

NOTE: When the oven door is opened, the oven lamp comes on at this time.

MICROWAVE COOKING CONDITION

100P COOKING

Enter a desired cooking time with the ROTARY knob. Then choose the microwave mode by pressing COOKING MODE button once. And choose the 100P microwave power with the ROTARY knob. And then start the oven by pressing the START button.

Function sequence Figure O-2 on page 29

CONNECTED COMPONENTS	RELAY
Oven lamp, Fan motor, Turntable motor	RY1
Grill heating element	RY2
High voltage transformer	RY3

1. The line voltage is supplied to the primary winding of the high voltage transformer. The voltage is converted to about 3.3 volts A.C. output on the filament winding and high voltage of approximately 2000 volts A.C. on the secondary winding.
2. The filament winding voltage (3.3 volts) heats the magnetron filament and the high voltage (2000 volts) is sent to the voltage doubling circuit, where it is doubled to negative voltage of approximately 4000 volts D.C..
3. The 2450 MHz microwave energy produced in the magnetron generates a wavelength of 12.24 cm. This energy is channelled through the waveguide (transport channel) into the oven cavity, where the food is placed to be cooked.
4. When the cooking time is up, a signal tone is heard and the relays RY1 + RY3 go back to their home position. The circuits to the oven lamp, high voltage transformer, fan motor and turntable motor are cut off.
5. When the door is opened during a cooking cycle, the switches come to the following condition.

		Condition	
Switch	Contact	During Cooking	Oven Door Open(No cooking)
Monitored latch switch	COM-NO	Closed	Opened
Stop switch	COM-NO	Closed	Opened
Monitor Switch	COM-NO	Closed	Opened
	COM-NC	Opened	Closed

The circuit to the high voltage transformer, fan motor and turntable motor are cut off when the monitored latch switch and stop switch are made open. The oven lamp remains on even if the oven door is opened after the cooking cycle has been interrupted, because the relay RY1 stays closed. Shown in the display is remaining time.

6. MONITOR SWITCH CIRCUIT
   The monitor switch SW2 is mechanically controlled by the oven door, and monitors the operation of the monitored latch switch SW1.

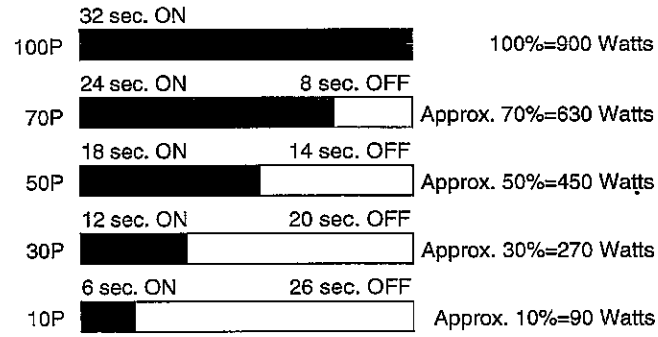
6-1. When the oven door is opened during or after the cycle of a cooking program, the monitored latch switch SW1 and stop switch SW3 must open their contacts first. After the contacts (COM-NC) of the monitor switch SW2 can be closed.

6-2. When the oven door is closed, the contacts (COM-NC) of the monitor switch SW2 must be opened. After that the contacts of the monitored latch switch SW1 and the stop switch SW3 are closed.

6-3. When the oven door is opened and the contacts of the monitored latch switch SW1 remain closed, the fuse F2 F8A will blow, because the monitor switch SW2 is closed and a short circuit is caused.

MEDIUM HIGH, MEDIUM, MEDIUM LOW, LOW COOKING

When the microwave oven is preset for variable cooking power, the line voltage is supplied to the high voltage transformer intermittently within a 32-second time base through the relay contact which is coupled with the current-limiting relay RY3. The following levels of microwave power are given.



Note: The On/Off time ratio does not exactly correspond to the percentage of microwave power, because approx. 3 seconds are needed for heating up the magnetron filament.

GRILL COOKING CONDITION

In this condition the food is cooked by the grill heater energy. Programme the desired cooking time with the ROTARY knob, and choose the grill mode by pressing COOKING MODE button twice. When the START button is pressed, the following operations occur:

Figure O-3 on page 30

1. The relay RY1 and RY2 are energized.
2. The numbers on the digital readout start the count down to zero.
3. Then oven lamp, cooling fan motor, turntable motor and grill heating element are energized.
4. Now, the food is grilled by the grill heating element.
5. Upon completion of the selected cooking time, audible signal sounds, and contacts of relays are opened, then the activated components as items 3 are de-energized.

DUAL COOKING CONDITION

In this condition the food is cooked by both microwave energy and grill heating element energy simultaneously. Enter the desired cooking time with the ROTARY knob. And choose the dual grill mode by pressing COOKING MODE button three times. Then choose the microwave power with ROTARY knob. When the START button is pressed, the following operations occur:

Figure O-4 on page 30

1. The relays RY1,RY2 and RY3 are energized.
2. The numbers on the digital read-out start the count down to zero.
3. Then following components are energized.

High voltage transformer	Grill heating element
Magnetron	Turntable motor
H.V. capacitor	Fan motor
H.V. rectifier	Oven lamp

4. Now, the food is cooked by microwave and grill heating element energy simultaneously.
5. Upon completion of the selected cooking time, audible signal sounds, and contacts of relays are opened, then the activated cpmponents as items 3 are de-energized.
6. When cooking in dual mode the microwave power is limited to 70% (via the I.C.).

EXPRESS DEFROST/EXPRESS COOK/EXPRESS MENU PROGRAMME

The cooking modes and cooking time are automatically computed and selected based on the programmes.

ON/OFF TIME RATIO

In dual cooking, magnetron operates whithin a 48 second time base. The following table is the ON / OFF time ratio at each power output of the magnetron.

POWER OUTPUT	ON TIME	OFF TIME
100%	48 sec.	0 sec.
70%	36 sec.	12 sec.
50%	26 sec.	22 sec.
30%	16 sec.	32 sec.
10%	8 sec.	40 sec.

POWER OUTPUT REDUCTION

After the same cooking mode is carried out for more than the basis cooking time, the power output is automatically reduced by turning the control relays on and off intermittently, as shown in the table below. This is to protect the oven door against temperature rising.

Cooking mode	Basis cooking time (minutes)	Reduced power output (%)
Microwave (100%)	20	70
Grill	30	50
DUAL (Micro 10%-70%) + Grill	30	50 (Grill)

NOTE:

1. If the multiple sequence cooking is carried out in the same mode, the basis cooking time is calculated from the first.
2. Even if the cooking is stopped by the STOP button or opening the door, the basis cooking time is calculated from the first.
3. If the same cooking mode is repeated within 1 minute and 15 seconds, the basis cooking time is calculated from the first.
4. If the same manu of automatic cooking is repeated within 1 minute and 15 seconds, the power output of the microwave or the grill will be reduced to 70% after 20 minutes when the oven is started at first.

FUNCTION OF IMPORTANT COMPONENTS

DOOR OPEN MECHANISM

The door can be opened by pulling the door handle. When the door handle is pulled, the latch head is moved upward, and released from the latch hook, now the door can be opened.

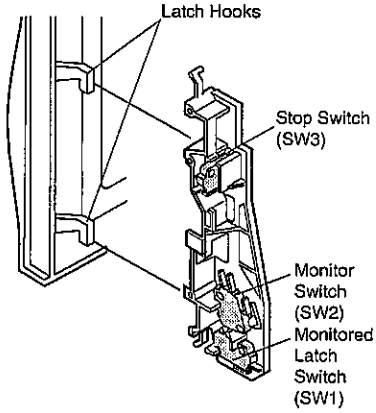


Figure D-1. Door Open Mechanism

MONITORED LATCH SWITCH SW1
STOP SWITCH SW3

1. When the oven door is closed, the contacts (COM-NO) must be closed.
2. When the oven door is opened, the contacts (COM-NO) must be opened.

MONITOR SWITCH SW2

1. When the oven door is closed, the contacts (COM-NC) must be opened and contacts (COM-NO) must be closed.
2. When the oven door is opened, the contacts (COM-NC) must be close and contacts (COM-NO) must be open.
3. If the oven door is opened and the contacts (COM-NO) of the monitored latch switch SW1 fail to open, the fuse F2 (F8A) blows simultaneously with closing the contacts (COM-NC) of the monitor switch SW2.

CAUTION: BEFORE REPLACING A BLOWN FUSE F2 F8A, TEST THE MONITORED LATCH SWITCH SW1 AND MONITOR SWITCH SW2 FOR PROPER OPERATION. (REFER TO CHAPTER "TEST PROCEDURE").

SPECIAL FUSE F1 20A 250V

If the wire harness or electrical components are short-circuited, this fuse blows to prevent an electric shock or fire hazard.

FUSE F2 F8A 250V

This fuse also blows when monitored latch switch SW1 remains closed with the oven door open and when the contact (COM-NC) of monitor switch SW2 closes.

1. If the wire harness or electrical components are short-circuited, this fuse blows to prevent an electric shock or fire hazard.
2. The fuse also blows when the asymmetric rectifier, H.V. rectifier,.H.V. wire harness, H.V. capacitor, magnetron or secondary winding of high voltage transformer is shorted.

THERMAL CUT-OUT 125°C TC1 (MG)

This thermal cut-out protects the magnetron against overheat. If the temperature goes up higher than 125°C because the fan motor is interrupted or the ventilation openings are blocked, the thermal cut-out TC1 will open and line voltage to the high voltage transformer T will cut off and operation of the magnetron MG will be stopped. The defective thermal cut-out must be replaced with a new one.

THERMAL CUT-OUT 145°C TC2 (OVEN)

The thermal cut-out located on the top of the oven cavity is designed to prevent damaged to the oven if the food in the oven catches fire due to over heating produced by improper stting of cooking time or failure of control unit. Under normal operation, the oven thermal cut-out remains closed. However, when abnormally high temperature is reached within the oven cavity, the oven thermal cut-out will open at 145°C, causing the oven to shut down. When the thermal cut-out cools itself down to the operating temperature of 115°C, the contacts of the thermal cut-out will close again.

TURNTABLE MOTOR TTM

The turntable motor rotates the turntable.

FAN MOTOR FM

The fan motor drives a blade which draws external cool air. This cool air is directed through the air vanes surrounding the magnetron and cools the magnetron. This air is channelled through the oven cavity to remove steam and vapours given off from heating food. It is then exhausted through the exhausting air vents of the oven cavity.

NOISE FILTER

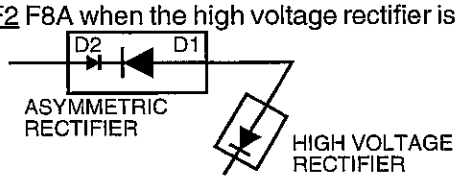
The noise filter prevents radio frequency interference that might flow back in the power circuit.

GRILL HEATING ELEMENT GH

The grill heating element is located on the top of the oven cavity assembly. The grill heating element sends out heat to grill foods.

ASYMMETRIC RECTIFIER

The asymmetric rectifier is solid state device that prevents current flow is both directions. And it prevents the temperature rise of the high voltage transformer by blowing the fuse F2 F8A when the high voltage rectifier is shorted.



The rated peak reverse voltage of D1 of the asymmetric rectifier is 6 KV The rated peak reverse voltage of D2 of the asymmetric rectifier is 1.7 KV. D1 and D2 of the asymmetric rectifier or high voltage rectifier are shorted when the each peak reverse voltage goes beyond the each rated peak reverse voltage. (The process of the blowing the fuse F2 F8A.)

1. The high voltage rectifier is shorted by some fault when microwave cooking or dual cooking.
2. The peak reverse voltage of D2 of the rectifier goes beyond the rated peak reverse voltage 1.7 KV in the voltage doubler circuit.
3. D2 of the rectifier is shorted.
4. The large electric currents flow through the high voltage winding of the high voltage transformer.
5. The large electric currents beyond 8A flow through the primary winding of the high voltage transformer.
6. The fuse F2 F8A blows by the large electric currents.
7. The power supplying to the high voltage transformer is cut off.

TROUBLESHOOTING GUIDE

When troubleshooting the microwave oven, it is helpful to follow the Sequence of Operation in performing the checks. Many of the possible causes of trouble will require that a specific test be performed. These tests are given a procedure letter which will be found in the "Test Procedure" section.

IMPORTANT: If the oven becomes inoperative because of a blown fuse F2 (F8A) in the monitored latch switch - monitor switch circuit, check the monitored latch switch and monitor switch before replacing the fuse F2 (F8A).

TEST PROCEDURE		A	B	C	D	E	E	E	F	F	G	H	I	J	J	K						M	L	N	N	N	O
POSSIBLE CAUSE AND DEFECTIVE PARTS		MAGNETRON	HIGH VOLTAGE TRANSFORMER	H.V. RECTIFIER ASSEMBLY	HIGH VOLTAGE CAPACITOR	MONITORED LATCH SWITCH	MONITOR SWITCH	STOP SWITCH	THERMAL CUT-OUT (MAG.)	THERMAL CUT-OUT (OVEN)	SPECIAL FUSE 20A F1	FUSE F8A F2	NOISE FILTER	TURNTABLE MOTOR	FAN MOTOR	GRILL HEATING ELEMENT	POWER SUPPLY CORD	OVEN LAMP	SHORTED WIRE HARNESS	OPENED WIRE HARNESS	MIS-ADJUSTMENT SWITCHES	SWITCH UNIT	CONTROL PANEL	RELAY RY1	RELAY RY3	RELAY RY2	FOIL PATTERN ON P.W.B.
CONDITION	PROBLEM																										
OFF CONDITION	Special fuse F1 20A blows when power cord is plugged into wall outlet.										●		●						●								
	Fuse F2 F8A blows when the door is opened.					●						●									●						
	Oven lamp does not light when door is opened. (Display operates.)							●										●		●			●	●			
	Home fuse blows when power cord is plugged into wall outlet.																●		●								
	Nothing appears in display when power cord is plugged into wall outlet.								●	●	●	●	●				●			●			●				●
	Display does not operate properly when STOP button is pressed.							●												●	●	●	●				
COOKING CONDITION (COMMON)	Oven does not start when the START button is pressed. (Display operates.)							●												●	●	●	●	●			
	Oven lamp does not light. (Turntable motor operates.)																	●		●							
	Fan motor does not operate. (Oven lamp lights.)					●									●					●	●						
	Turntable motor does not operate. (Oven lamp lights.)					●								●						●	●						
	Oven or electrical parts do not stop when cooking time is 0 or STOP button is pressed.																						●	●	●	●	
	Oven goes into cook cycle but shuts down before end of cooking cycle.								●	●																	
	Oven stops as soon as the START button is pressed. (Except for Grill Cooking)	●	●	●	●							●							●								
MICROWAVE COOKING CONDITION	Oven seems to be operating but little or no heat is produced in oven load. (Microwave power control is set at 100P)	●	●	●	●		●					●								●	●		●		●		
	Oven does not seem to be operating properly during variable cooking condition except 100P cooking condition.																						●		●		
	Oven goes into cook cycle but shuts down before end of cooking cycle.								●	●																	
GRILL COOKING CONDITION	Grill heating element does operate.															●				●			●			●	
DUAL COOKING CONDITION	Oven seems to be operating but little or no heat is produced in oven load. (Microwave power does not seem to be generated properly)	●	●	●	●		●					●								●	●		●		●		
	Grill heating element does not operate.															●				●			●			●	

PROCEDURE LETTER	COMPONENT TEST
A	MAGNETRON TEST

NEVER TOUCH ANY PART IN THE CIRCUIT WITH YOUR HAND OR AN INSULATED TOOL WHILE THE OVEN IS IN OPERATION.

CARRY OUT 3D CHECKS.

Isolate the magnetron from high voltage circuit by removing all leads connected to filament terminal.

To test for an open circuit filament use an ohmmeter to make a continuity test between the magnetron filament terminals, the meter should show a reading of less than 1 ohm.

To test for short filament to anode condition, connect ohmmeter between one of the filament terminals and the case of the magnetron (ground). This test should be indicated an infinite resistance. If a low or zero resistance reading is obtained then the magnetron should be replaced.

MICROWAVE OUTPUT POWER (IEC-60705)

The following test procedure should be carried out with the microwave oven in a fully assembled condition (outer case fitted). Microwave output power from the magnetron can be measured by way of IEC 60705, i.e. it is measured by how much power the water load can absorb. To measure the microwave output power in the microwave oven, the relation of calorie and watt is used. When P(W) heating works for t(second), approximately P x t/4.187 calorie is generated. On the other hand, if the temperature of the water with V(ml) rises ΔT (°C) during this microwave heating period, the calorie of the water is V x ΔT.

The formula is as follows;

$P \times t / 4.187 = V \times \Delta T + 0.55 \times mc\ (T2-T0)$ $\quad P\ (W) = 4.187 \times V \times \Delta T / t + 0.55 \times mc\ (T2-T0)/t$

Our condition for water load is as follows:

Room temperature (T0) ... around 20°C	Power supply Voltage ..... Rated voltage
Water load ..... 1000 g	Initial temperature (T1) ..... 10±1°C
Heating time ..... 47+3=50 sec.	Mass of container (mc) ..... 330 g
T2 ..... Final Temperature	$P = 90 \times \Delta T + 0.55 \times mc\ (T2-T0)/47$

Measuring condition:

1. Container
   The water container must be a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
2. Temperature of the oven and vessel
   The oven and the empty vessel are at ambient temperature prior to the start the test.
3. Temperature of the water
   The initial temperature of the water is (10±1)°C.
4. Select the initial and final water temperature so that the maximum difference between the final water temperature and the ambient temperature is 5K.
5. Select stirring devices and measuring instruments in order to minimize addition or removal of heat.
6. The graduation of the thermometer must be scaled by 0.1°C at minimum and be an accurate thermometer.
7. The water load must be (1000±5) g.
8. "t" is measured while the microwave generator is operating at full power. Magnetron filament heat-up time is not included.

NOTE: The operation time of the microwave oven is "t + 3" sec. (3 sec. is magnetron filament heat-up time.)
Therefore total heating time = 55 sec.

Measuring method:

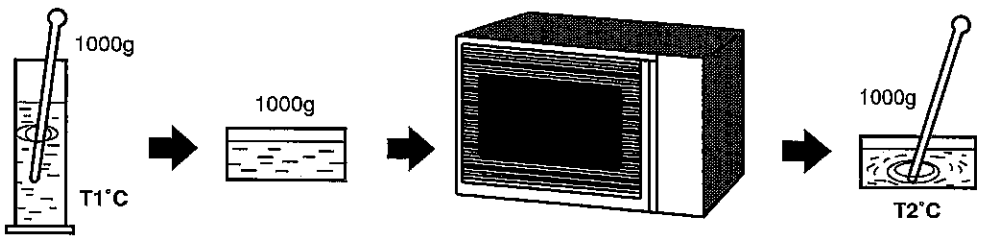
1. Measure the initial temperature of the water before the water is added to the vessel.
   (Example: The initial temperature T1 = 11°C)
2. Add the 1 litre water to the vessel.
3. Place the load on the centre of the shelf.
4. Operate the microwave oven at HIGH for the temperature of the water rises by a value Δ T of 10°C.
5. Stir the water to equalize temperature throughout the vessel.
6. Measure the final water temperature. (Example: The final temperature T2 = 21°C)
7. Calculate the microwave power output P in watts from above formula.

PROCEDURE LETTER	COMPONENT TEST

Initial temperature ..... T1 = 11°C
Temperature after (47 + 3) = 50 sec ..... T2 = 21°C
Temperature difference Cold-Warm ..... ΔT1 = 10C
Measured output power
The equation is "P = 90 x ΔT" ..... P = 90 x 10°C = 900 Watts

JUDGMENT: The measured output power should be at least ± 15 % of the rated output power.

CAUTION: 1°C CORRESPONDS TO 90 WATTS. REPEAT MEASUREMENT IF THE POWER IS INSUFFICIENT.



Heat up for 50 sec

B HIGH VOLTAGE TRANSFORMER TEST

WARNING: High voltage and large currents are present at the secondary winding and filament winding of the high voltage transformer. It is very dangerous to work near this part when the oven is on. NEVER make any voltage measurements of the high-voltage circuits, including the magnetron filament.

CARRY OUT 3D CHECKS.
Disconnect the leads to the primary winding of the high voltage transformer. Disconnect the filament and secondary winding connections from the rest of the HV circuitry. Using an ohmmeter, set on a low range, it is possible to check the continuity of all three winding. The following readings should be obtained:-

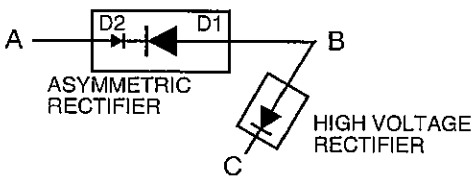
a. Primary winding ..... approximately 2 Ω
b. Secondary winding ..... approximately 130 Ω
c. Filament winding ..... less than 1 Ω

If the readings obtained are not stated as above, then the high voltage transformer is probably faulty and should be replaced.
CARRY OUT 4R CHECKS.

C HIGH VOLTAGE RECTIFIER TEST

CARRY OUT 3D CHECKS.
Isolate the high voltage rectifier assembly from the HV circuit. The high voltage rectifier can be tested using an ohmmeter set to its highest range. Connect the ohmmeter across the terminal B+C of the high voltage rectifier and note the reading obtained. Reverse the meter leads and note this second reading. The normal resistance is infinite in one direction and more than 100 kΩ in the other direction.

CARRY OUT 4R CHECKS.



ASYMMETRIC RECTIFIER TEST

CARRY OUT 3D CHECKS.

Isolate the high voltage rectifier assembly from the HV circuit. The asymmetric rectifier can be tested using an ohmmeter set to its highest range across the terminals A+B of the asymmetric rectifier and note the reading obtained. Reverse the meter leads and note this second reading. If an open circuit is indicated in both directions then the asymmetric rectifier is good. If the asymmetric rectifier is shorted in either direction, then the asymmetric rectifier is probably faulty and must be replaced with high voltage rectifier. When the asymmetric rectifier is defective, check whether magnetron, high voltage rectifier, high voltage wire or filament winding of the high voltage transformer is shorted.

PROCEDURE LETTER	COMPONENT TEST

CARRY OUT 4R CHECKS.

NOTE: FOR MEASUREMENT OF THE RESISTANCE OF THE RECTIFIER, THE BATTERIES OF THE MEASURING INSTRUMENT MUST HAVE A VOLTAGE AT LEAST 6 VOLTS, BECAUSE OTHERWISE AN INFINITE RESISTANCE MIGHT BE SHOWN IN BOTH DIRECTIONS.

D HIGH VOLTAGE CAPACITOR TEST

CARRY OUT 3D CHECKS.

A. Isolate the high voltage capacitor from the circuit.
B. Continuity check must be carried out with measuring instrument which is set to the highest resistance range.
C. A normal capacitor shows continuity for a short time (kick) and then a resistance of about 10MΩ after it has been charged.
D. A short-circuited capacitor shows continuity all the time.
E. An open capacitor constantly shows a resistance about 10 MΩ because of its internal 10MΩ resistance.
F. When the internal wire is opened in the high voltage capacitor shows an infinite resistance.
G. The resistance across all the terminals and the chassis must be infinite when the capacitor is normal.

If incorrect reading are obtained, the high voltage capacitor must be replaced.

CARRY OUT 4R CHECKS.

E SWITCH TEST

CARRY OUT 3D CHECKS.
Isolate the switch to be tested and using an ohmmeter check between the terminals as described in the following table.

Table: Terminal Connection of Switch

Plunger Operation	COM to NO	COM to NC
Released	Open circuit	Short circuit
Depressed	Short circuit	Open circuit

COM; Common terminal,
NO; Normally open terminal
NC; Normally close terminal

If incorrect readings are obtained, make the necessary switch adjustment or replace the switch.

CARRY OUT 4R CHECKS.

F THERMAL CUT-OUT TEST

CARRY OUT 3D CHECKS.

Disconnect the leads from the terminals of the thermal cut-out. Then using an ohmmeter, make a continuity test across the two terminals as described in the below.

Table: Thermal Cut-out Test

Parts Name	Temperature of "ON" condition (closed circuit). (°C)	Temperature of "OFF" condition (open circuit). (°C)	Indication of ohmmeter (When room temperature is approx. 20°C.)
Thermal cut-out TC1 125°C	This is not resetable	Above 125°C	Closed circuit
Thermal cut-out TC2 145°C	Below 115°C.	Above 145°C	Closed circuit

If incorrect readings are obtained, replace the thermal cut-out.

An open circuit thermal cut-out (MG) TC1 indicates that the magnetron has overheated, this may be due to resistricted ventilation, cooling fan failure or a fault condition within the magnetron or HV circuit.

An open circuit thermal cut-out (OVEN) TC2 indicates that the oven cavity has cought fire, this may be due to over heating produced by omproper setting of the cooking time or failure of the control panel.

CARRY OUT 4R CHECKS.

PROCEDURE LETTER	COMPONENT TEST

G **BLOWN SPECIAL FUSE F1 20A**

CARRY OUT 3D CHECKS.

If the special fuse F1 20A is blown, there is a shorts or grounds in electrical parts or wire harness. Check them and replace the defective parts or repair the wire harness.

CARRY OUT 4R CHECKS.

CAUTION: Only replace special fuse 20A with the correct value replacement.

H **BLOWN FUSE F2 F8A**

CARRY OUT 3D CHECKS.

1. If the fuse F2 F8A is blown when the door is opened, check the monitored latch switch and monitor switch.
2. If the fuse F2 F8A is blown by incorrect door switching replace the defective switch(es) and the fuse F2 F8A.
3. If the fuse F2 F8A is blown, there could be shorts in the asymmetric rectifier or there is a ground in wire harness. A short in the asymmetric rectifier may be occurred due to short or ground in H.V. rectifier, magnetron, high voltage transformer or H.V. wire. Check them and replace the defective parts or repair the wire harness.

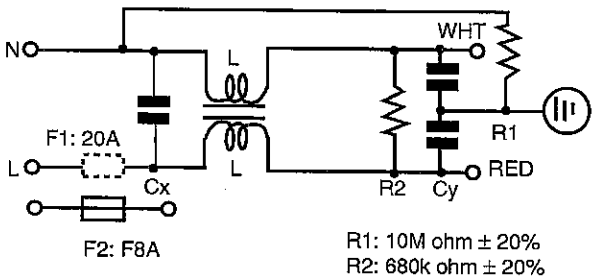
CARRY OUT 4R CHECKS.

CAUTION: Only replace fuse F2 F8A with the correct value replacement.

I **NOISE FILTER TEST**

CARRY OUT 3D CHECKS.

Disconnect the leads from the terminals of noise filter.
Using an ohmmeter, check between the terminals as described in the following table.



R1: 10M ohm ± 20%
R2: 680k ohm ± 20%

L (min)	Cx ± 20%	Cy ± 20%
1.0mH	0.22μF	4700pF

MEASURING POINTS	INDICATION OF OHMMETER
Between N and L	Approx. 680 kΩ
Between terminal N and WHITE	Short circuit
Between terminal L and RED	Short circuit

If incorrect readings are absorbed, replace the noise filter unit.

CARRY OUT 4R CHECKS.

J **MOTOR WINDING TEST**

CARRY OUT 3D CHECKS.

Disconnect the leads from the motor. Using an ohmmeter, check the resistance between the two terminals as described in the table below.

Table: Resistance of Motor

Motors	Resistance
Fan motor	Approximately 290 Ω
Turntable motor	Approximately 14.6 kΩ

If incorrect readings are obtained, replace the motor.

CARRY OUT 4R CHECKS.

PROCEDURE LETTER	COMPONENT TEST

K GRILL HEATING ELEMENT TEST

CARRY OUT 3D CHECKS.

Before carrying out the following tests make sure the heating element is cool completely.

1. Resistance of heating element.
   Disconnect the wire leads to the heating element to be tested. Using ohmmeter with low resistance range. Check the resistance across the terminals of the heating element as described in the following table.

Table: Resistance of heating element

Parts name	Resistance
Grill heating element	Approximately 56 Ω

2. Insulation resistance.
   Disconnect the wire leads to the heating element to be tested. Check the insulation resistance between the element terminal and cavity using a 500V - 100MΩ insulation tester. The insulation resistance should be more than 10 MΩ in the cold start.

If the results of above test 1 and/or 2 are out of above specifications, the heating element is probably faulty and should be replaced.

CARRY OUT 4R CHECKS.

L CONTROL PANEL ASSEMBLY TEST

The touch control panel consists of circuits including semiconductors such as LSI, ICs, etc. Therefore, unlike conventional microwave ovens, proper maintenance cannot be performed with only a voltmeter and ohmmeter.
In this service manual, the touch control panel assembly is divided into two units, Control Unit and Switch Unit, and troubleshooting by unit replacement is described according to the symptoms indicated.

1. Switch Unit. Note : Check switch unit lead wire harness connection before replacement.
   The following symptoms indicate a defective switch unit. Replace the switch unit.
   a) When touching the keys, a certain key produces no signal at all.
   b) When touching a key, two figures or more are displayed.
   c) When touching the keys, sometimes a key produces no signal.
2. Control Unit
   The following symptoms indicate a defective control unit. Before replacing the control unit, perform the Switch unit test (Procedure L) to determine if control unit is faulty.

2-1 In connection with keys.
   a) When touching the keys, a certain group of keys do not produce a signal.
   b) When touching the keys, no keys produce a signal.

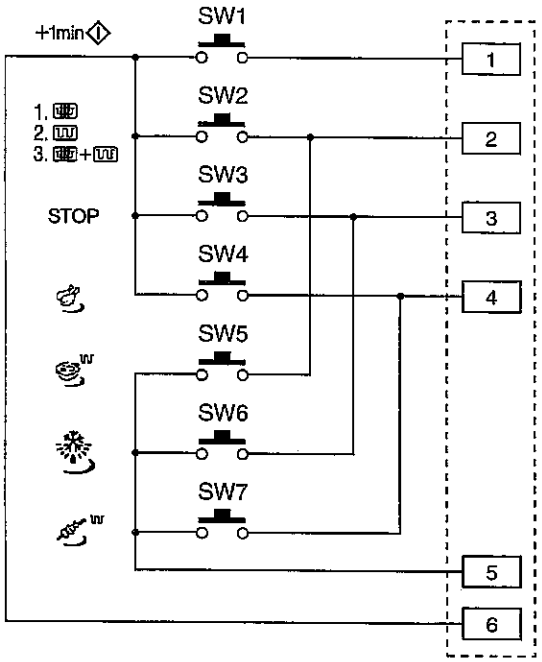
2-2 In connection with indicators
   a) At a certain digit, all or some dots do not light up.
   b) At a certain digit, brightness is low.
   c) Only one indicator does not light.
   d) The corresponding dots of all digits do not light up; or they continue to light up.
   e) Wrong figure appears.
   f) A certain group of indicators do not light up.
   g) The figure of all digits flicker.

2-3 Other possible problems caused by defective control unit.
   a) Buzzer does not sound or continues to sound.
   b) Clock does not operate properly.
   c) Cooking is not possible.

PROCEDURE LETTER	COMPONENT TEST

M **SWITCH UNIT TEST**

If the display fails to clear when the STOP key is depressed, first verify the lead wire harness is making good contact, verify that the stop switch operates properly; that the contacts are closed when the door is closed and open when the door is open. If the stop switch is good, disconnect the lead wire harness that connects the switch unit to the display unit and make sure the stop switch is closed (either close the door or short the stop switch connector). Use the Switch unit matrix indicated on the switch unit circuit and place a jumper wire between the pins that correspond to the STOP key making momentary contact. If the display unit responds by clearing with a beep the switch unit is faulty and must be replaced. If the display unit does not respond, it is a faulty and must be replaced. If a specific key does not respond, the above method may be used (after clearing the display unit) to determine if the display unit or switch unit is at fault.



N **RELAY TEST**

Remove the outer case and check voltage between Pin No. 1 and Pin No. 3 of the 3 pin connector (A) on the control unit with an A.C. voltmeter.
The meter should indicate rated voltage, if not check oven circuit.

RY1, RY2 and RY3 Relay Test
These relays are operated by D.C. voltage
Check voltage at the relay coil with a D.C. voltmeter during the microwave cooking operation or grill cooking operation.

DC. voltage indicated ..... Defective relay.
DC. voltage not indicated .... Check diode which is connected to the relay coil. If diode is good, control unit is defective.

RELAY SYMBOL	OPERATIONAL VOLTAGE	CONNECTED COMPONENTS
RY1	Approx. 24.0V D.C.	Oven lamp / Turntable motor / Cooling fan motor
RY2	Approx. 18.0V D.C.	Heating element
RY3	Approx. 18.0V D.C.	High voltage transformer

O **PROCEDURES TO BE TAKEN WHEN THE FOIL PATTERN ON THE PRINTED WIRING BOARD (PWB) IS OPEN**

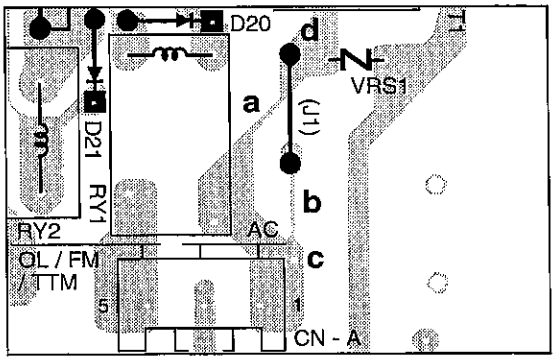
To protect the electronic circuits, this model is provided with a fine foil pattern added to the primary on the PWB, this foil pattern acts as a fuse. If the foil pattern is open, follow the troubleshooting guide given below for repair.
Problem: POWER ON, indicator does not light up.
CARRY OUT 3D CHECKS.

STEPS	OCCURRENCE	CAUSE OR CORRECTION
1	The rated AC voltage is not present at POWER terminal of CPU connector (CN-A).	Check supply voltage and oven power cord.
2	The rated AC voltage is present at primary side of low voltage transformer.	Low voltage transformer or secondary circuit defective. Check and repair.
3	Only pattern at "a" is broken.	*Insert jumper wire J1 and solder. (CARRY OUT 3D CHECKS BEFORE REPAIR)
4	Pattern at "a" and "b" are broken.	*Insert the coil RCILF2003YAZZ between "c" and "d". (CARRY OUT 3D CHECKS BEFORE REPAIR)

PROCEDURE LETTER	COMPONENT TEST

NOTE: *At the time of these repairs, make a visual inspection of the varistor for burning damage and examine the transformer with tester for the presence of layer short-circuit (check primary coil resistance). If any abnormal condition is detected, replace the defective parts.

CARRY OUT 4R CHECKS.



TOUCH CONTROL PANEL ASSEMBLY

OUTLINE OF TOUCH CONTROL PANEL

The touch control section consists of the following units.

(1) Switch Unit
(2) Control Unit

The principal functions of these units and the signals communicated among them are explained below.

Switch Unit
The switch unit is composed of a matrix, signals generated in the LSI are sent to the switch unit through R60 and R61. When a switch button is touched, a signal is completed through the switch unit and passed back to the LSI through R50, R51, R52 and R53 to perform the function that was requested.

Control Unit
Control unit consists of LSI, power source circuit, relay circuit, back light circuit, synchronizing signal circuit, ACL circuit, buzzer circuit and indicator circuit.

1) **LSI**
This LSI controls the tact switch strobe signal, relay driving signal for oven function and indicator signal.

2) **Power Source Circuit**
This circuit generates voltage necessary in the control units.

Symbol	Voltage	Application
VC	+5V	LSI(IC1)

3) **Synchronizing Signal Circuit**
The power source synchronizing signal is available in order to compose a basic standard time in the clock circuit. It accompanies a very small error because it works on commercial frequency.

4) **ACL Circuit**
A circuit to generate a signals which resets the LSI to the initial state when power is supplied.

5) **Buzzer Circuit**
The buzzer is responsive to signals from the LSI to emit audible sounds (tact switch touch sound and completion sound).

6) **Stop Switch**
A switch to "tell" the LSI if the door is open or closed.

7) **Relay Circuit**
To drive the magnetron, fan motor, turntable motor, grill heating element and light the oven lamp.

8) **Indicator Circuit**
This circuit consists of 4-digits, 12-segments and 3-common electrodes using a Liquid Crystal Display.

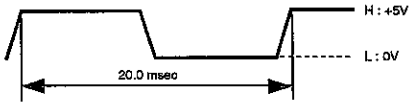
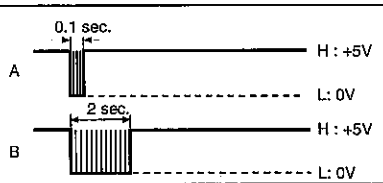
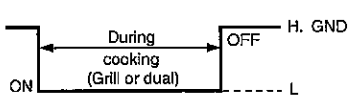
9) **Encoder**
The encoder converts the signal generated by LSI into the pulse signal, and the pulse signal is returned to the LSI.

10) **Back Light Circuit**
A circuit to drive the back light (Light emitting diodes LED1-LED4)

DESCRIPTION OF LSI

LSI(IXA089DR)

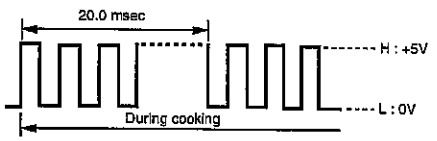
The I/O signal of the LSI(IXA089DR) are detailed in the following table.

Pin No.	Signal	I/O	Description
1-3	SEG21-SEG23	OUT	Terminal not used.
4	COM1	OUT	**Common data signal: COM1.** Connected to LCD (Pin No. 1)
5	COM2	OUT	**Common data signal: COM2.** Connected to LCD (Pin No. 2)
6	COM3	OUT	**Common data signal: COM3.** Connected to LCD (Pin No. 3)
7	COM4	OUT	Terminal not used.
8	VLC	IN	**Signal synchronized with commercial power source frequency.** Signal similar to VSS.
9	VSS	IN	**Power source voltage: 0V.** VSS voltage of power source circuit input.
10	XIN	IN	**Internal clock oscillation frequency setting input.** The internal clock frequency is set by inserting the ceramic filter oscillation circuit with respect to XOUT terminal.
11	XOUT	OUT	**Internal clock oscillation frequency control output.** Output to control oscillation input of XIN.
12-15	K00-K03	IN	**Terminal to change functions according to the Model.** DC voltage in accordance with the Model in operation is applied to set up its function.
16	TEST	IN	Connected to VC.
17	RESET	IN	**Auto clear terminal.** Signal is input to reset the LSI to the initial state when power is supplied. Temporarily set to "L" level the moment power is supplied, at this time the LSI is reset. Thereafter set at "H" level.
18	HOLD	IN/OUT	Connected to VDD.
19	INT2	IN	**Signal synchronized with commercial power source frequency.** This is the basic timing for time processing of LSI. 
20	R81	IN	**Signal coming from encoder.** When the encoder is turned, the contacts of encoder make pulse signals. And pulse signals are input into R81.
21	INT1	IN	**Signal coming from encoder.** Signal similar to R81. Pulse signals are input into INT1.
22	R83	OUT	Terminal not used.
23	R90	IN	**To input signal which communicates the door open/close information to LSI.** Door open "L" level signal (0V). Door close "H" level (+5V)
24-25	R91-R92	OUT	Terminal not used.
26	VDD	IN	Connected to GND.
27	R40	OUT	**Signal to sound buzzer (2.0 kHz).** A: tact switch touch sound. B: Completion sound. 
28	R41	OUT	**Grill heating element driving signsl.** To turn on and off the grill heating element relay (RY2). "L" level during grill cooking or dual cooking; "H" level otherwise. 

DESCRIPTION OF LSI

LSI(IXA089DR)

The I/O signal of the LSI(IXA089DR) are detailed in the following table.

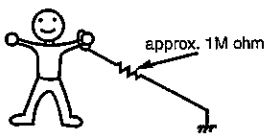
<table>
<tr><th>Pin No.</th><th>Signal</th><th>I/O</th><th>Description</th></tr>
<tr><td>29</td><td>R42</td><td>OUT</td><td><u>Magnetron high-voltage circuit driving signal.</u>
To turn on and off the cook relay (RY3). In 100% POWER operation, the signals hold "L" level during microwave cooking and "H" level while not cooking. In other cooking modes (70%, 50%, 30%, 10%) the signal turns to "H" level and "L" level in repetition according to the power level.
ON/OFF time ratio in Micro cooking (a. 32second time base)
<table><tr><th>MICRO COOK</th><th>ON</th><th>OFF</th></tr><tr><td>100%</td><td>32sec.</td><td>0sec.</td></tr><tr><td>70%</td><td>24sec.</td><td>8sec.</td></tr><tr><td>50%</td><td>18sec.</td><td>14sec.</td></tr><tr><td>30%</td><td>12sec.</td><td>20sec.</td></tr><tr><td>10%</td><td>6sec.</td><td>26sec.</td></tr></table>ON/OFF time ratio in Micro cooking (a. 48second time base)
<table><tr><th>MICRO COOK</th><th>ON</th><th>OFF</th></tr><tr><td>100%</td><td>48sec.</td><td>0sec.</td></tr><tr><td>70%</td><td>36sec.</td><td>12sec.</td></tr><tr><td>50%</td><td>26sec.</td><td>22sec.</td></tr><tr><td>30%</td><td>16sec.</td><td>32sec.</td></tr><tr><td>10%</td><td>8sec.</td><td>40sec.</td></tr></table></td></tr>
<tr><td>30</td><td>R43</td><td>OUT</td><td><u>Oven lamp, fan motor and turntable motor driving signal.</u>
To turn on and off shut off relay (RY1). The square waveform voltage is delivered to the RY1 driving circuit.
 
</td></tr>
<tr><td>31</td><td>R50</td><td>IN</td><td><u>Signal coming from tact switch.</u>
When tact switches SW1 is touched, a signal out of R61 will be input into R50. When no tact switch is touched, the signal is held at "H" level.</td></tr>
<tr><td>32</td><td>R51</td><td>IN</td><td><u>Signal coming from tact switch.</u>
When either of tact switches SW2 and SW5 is touched, a corresponding signal out of R60 and R61 will be input into R51. When no tact switch is touched, the signal is held at "H" level.</td></tr>
<tr><td>33</td><td>R52</td><td>IN</td><td><u>Signal coming from tact switch.</u>
When either of tact switches SW3 and SW6 is touched, a corresponding signal out of R60 and R61 will be input into R52. When no tact switch is touched, the signal is held at "H" level.</td></tr>
<tr><td>34</td><td>R53</td><td>IN</td><td><u>Signal coming from tact switch.</u>
When either of tact switches SW4 and SW7 is touched, a corresponding signal out of R60 and R61 will be input into R53. When no tact switch is touched, the signal is held at "H" level.</td></tr>
<tr><td>35</td><td>R60</td><td>OUT</td><td><u>Tact switch strobe signal.</u>
Signal applied to tact switch section. A pulse signal is input to R51, R52 or R53 terminal while the tact switch SW5, SW6 or SW7 is touched.</td></tr>
<tr><td>36</td><td>R61</td><td>OUT</td><td><u>Tact switch strobe signal.</u>
Signal applied to tact switch section. A pulse signal is input to R50, R51, R52 or R53 terminal while the tact switch SW1, SW2, SW3 or SW4 is touched.</td></tr>
<tr><td>37-38</td><td>R62-R63</td><td>OUT</td><td>Terminal not used.</td></tr>
<tr><td>39-42</td><td>R70-R73</td><td>OUT</td><td>Terminal not used.</td></tr>
<tr><td>43-54</td><td>SEG0 - SEG11</td><td>OUT</td><td><u>Segment data signal.</u>
Connected to LCD.
The relation between signals are as follows:
LSI signal (Pin No.) LCD (Pin No.) LSI signal (Pin No.) LCD (Pin No.)
SEG 0 (1) ..... S12(4) SEG 6 (7) ..... S6(10)
SEG 1 (2) ..... S11(5) SEG 7 (8) ..... S5(11)
SEG 2 (3) ..... S10(6) SEG 8 (9) ..... S4(12)
SEG 3 (4) ..... S9(7) SEG 9 (10) ..... S3(13)
SEG 4 (5) ..... S8(8) SEG 10 (11) ..... S2(14)
SEG 5 (6) ..... S7(9) SEG 11 (12) ..... S1(15)</td></tr>
<tr><td>55-57</td><td>SEG12-SEG14</td><td>OUT</td><td>Terminal not used.</td></tr>
<tr><td>58</td><td>VDD</td><td>IN</td><td><u>Power source voltage input terminal.</u>
Connected to GND.</td></tr>
<tr><td>59-64</td><td>SEG15-SEG20</td><td>OUT</td><td>Terminal not used.</td></tr>
</table>

1. Precautions for Handling Electronic Components

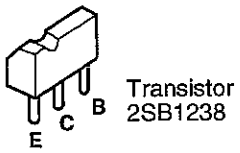
This unit uses CMOS LSI in the integral part of the circuits. When handling these parts, the following precautions should be strictly followed. CMOS LSI have extremely high impedance at its input and output terminals. For this reason, it is easily influenced by the surrounding high voltage power source, static electricity charge in clothes, etc., and sometimes it is not fully protected by the built-in protection circuit.

In order to protect CMOS LSI.

1) When storing and transporting, thoroughly wrap them in aluminium foil. Also wrap PW boards containing them in aluminium foil.
2) When soldering, ground the technician as shown in the figure and use grounded soldering iron and work table.



2. Shapes of Electronic Components



Transistor
2SB1238

Transistor
DTA123ES
KRA101M
KRA223M
KRC243M

3. Servicing of Touch Control Panel

We describe the procedures to permit servicing of the touch control panel of the microwave oven and the precautions you must take when doing so.

To perform the servicing, power to the touch control panel is available either from the power line of the oven itself or from an external power source.

(1) Servicing the touch control panel with power supply of the oven :

CAUTION:
THE HIGH VOLTAGE TRANSFORMER OF THE MICROWAVE OVEN IS STILL LIVE DURING SERVICING AND PRESENTS A HAZARD .

Therefore, when checking the performance of the touch control panel, put the outer cabinet on the oven to avoid touching the high voltage transformer, or unplug the primary terminal (connector) of the high voltage transformer to turn it off; the end of such connector must be insulated with an insulating tape. After servicing, be sure to replace the leads to their original locations.

A. On some models, the power supply cord between the touch control panel and the oven itself is so short that the two can't be separated.

For those models, check and repair all the controls (sensor-related ones included) of the touch control panel while keeping it connected to the oven.

B. On some models, the power supply cord between the touch control panel and the oven itself is so long enough so that they may be separated from each other. For those models, therefore, it is possible to check and repair the controls of the touch control panel while keeping it apart from the oven; in this case you must short both ends of the door sensing switch (on PWB) of the touch control panel with a jumper, which brings about an operational state that is equivalent to the oven door being closed. As for the sensor-related controls of the touch control panel, checking them is possible if the dummy resistor(s) with resistance equal to that of the controls are used.

(2) Servicing the touch control panel with power supply from an external power source:

Disconnect the touch control panel completely from the oven proper, and short both ends of the door sensing switch (on PWB) of the touch control panel, which brings about an operational state that is equivalent to the oven door being closed. Connect an external power source to the power input terminal of the touch control panel, then it is possible to check and repair the controls of the touch control panel; it is also possible to check the sensor-related controls of the touch control panel by using the dummy resistor(s).

4. Servicing Tools

Tools required to service the touch control panel assembly.

1) Soldering iron: 30W
   (It is recommended to use a soldering iron with a grounding terminal.)
2) Oscilloscope: Single beam, frequency range: DC - 10MHz type or more advanced model.
3) Others: Hand tools

5. Other Precautions

1) Before turning on the power source of the control unit, remove the aluminium foil applied for preventing static electricity.
2) Connect the connector of the key unit to the control unit being sure that the lead wires are not twisted.
3) After aluminium foil is removed, be careful that abnormal voltage due to static electricity etc. is not applied to the input or output terminals.
4) Attach connectors, electrolytic capacitors, etc. to PWB, making sure that all connections are tight.
5) Be sure to use specified components where high precision is required.

COMPONENT REPLACEMENT AND ADJUSTMENT PROCEDURE

WARNING: Avoid possible exposure to microwave energy. Please follow the instructions below before operating the oven.

1. Disconnect oven from power supply.
2. Visually check the door and cavity face plate for damage (dents, cracks, signs of arcing etc.).

Carry out any remedial work that is necessary before operating the oven.
Do not operate the oven if any of the following conditions exist;

1. Door does not close firmly.
2. Door hinge, support or latch hook is damaged.
3. The door gasket or seal are damaged.
4. The door is bent or warped.
5. There are defective parts in the door interlock system.
6. There are defective parts in the microwave generating and transmission assembly.
7. There is visible damage to the oven.

Do not operate the oven:

1. Without the RF gasket (Magnetron).
2. If the wave guide or oven cavity are not intact.
3. If the door is not closed.
4. If the outer case (cabinet) is not fitted.

Please refer to 'OVEN PARTS, CABINET PARTS, CONTROL PANEL PARTS, DOOR PARTS', when carrying out any of the following removal procedures:

WARNING FOR WIRING

To prevent an electric shock, take the following precautions

1. Before wiring,
   1) Disconnect the power supply.
   2) Open the door and wedge the door open.
   3) Discharge the high voltage capacitor and wait for 60 seconds.
2. Don't let the wire leads touch to the following parts;
   1) High voltage parts:
      Magnetron, High voltage transformer, High voltage capacitor and High voltage rectifier assembly.
   2) Hot parts:
      Grill heating element, Oven lamp, Magnetron, High voltage transformer and Oven cavity.
   3) Sharp edge:
      Bottom plate, Oven cavity, Waveguide flange, Chassis support and other metallic plate.
   4) Movable parts (to prevent a fault)
      Fan blade, Fan motor, Switch and Turntable motor.
3. Do not catch the wire leads in the outer case cabinet.
4. Insert the positive lock connector correctly until its pin is locked. And make sure that the wire leads should not come off even if the wire leads is pulled.
5. To prevent an error function, connect the wire leads correctly, referring to the Pictorial Diagram Page 33.

OUTER CASE REMOVAL

To remove the outer case proceed as follows.

1. Disconnect oven from power supply.
2. Open the oven door and wedge it open.
3. Remove the one (1) screw holding the back plate to the oven cavity rear plate. Remove the back plate.
4. Remove the one (1) screw holding the air duct assembly to the oven cavity rear plate.
5. Remove the air duct assembly
6. Remove the two (2) screws holding the rear air angle to the outer case cabinet.
7. Remove the six (6) screws from rear and along the side edge of case.
8. Slide the entire case back about 3 cm to free it from retaining clips on the cavity face plate.
9. Lift the entire case from the oven.
10. Discharge the H.V. capacitor before carrying out any further work.
11. Do not operate the oven with the outer case removed.

N.B.; Step 1, 2 and 10 form the basis of the 3D checks.

CAUTION: DISCHARGE HIGH VOLTAGE CAPACITOR BEFORE TOUCHING ANY OVEN COMPONENT OR WIRING.

CAUTION: WHEN THE OUTER CASE CABINET IS RE-INSTALLED, INSTALL IT BEFORE THE REAR AIR ANGLE, AIR DUCT AND BACK PLATE ARE INSTALLED, OR THE OUTER CASE CABINET WILL BE DEFORMED.

HIGH VOLTAGE COMPONENTS REMOVAL (HIGH VOLTAGE CAPACITOR AND HIGH VOLTAGE RECTIFIER ASSEMBLY)

To remove the components, proceed as follows.

1. CARRY OUT 3D CHECKS.
2. Disconnect the filament lead and high voltage wire of the high voltage transformer and the high voltage wire B from the high voltage capacitor.
3. Remove one (1) screw holding earth side terminal of the high voltage rectifier assembly.
4. Remove one (1) screw holding fan duct to the oven cavity rear plate.
5. Remove one (1) screw holding capacitor holder to the oven cavity rear plate.
6. Release the capacitor holder from the fan duct.

7. Remove the high voltage capacitor from the capacitor holder.
8. Disconnect the high voltage rectifier assembly from the high voltage capacitor.
9. Now, the high voltage rectifier assembly and the high voltage capacitor should be free.

CAUTION: WHEN REPLACING HIGH VOLTAGE RECTIFIER ASSEMBLY, ENSURE THAT THE CATHODE (EARTH) CONNECTION IS SECURELY FIXED TO THE CAPACITOR HOLDER WITH AN EARTHING SCREW.

HIGH VOLTAGE TRANSFORMER REMOVAL

1. CARRY OUT 3D CHECKS.
2. Disconnect the filament leads and high voltage wire of high voltage transformer from high voltage capacitor and the magnetron.
3. Disconnect the main wire harness from the high voltage transformer.
4. Remove the two (2) screws and one (1) washer holding the transformer to the base plate.
5. Remove the transformer.
6. Now the high voltage transformer is free.

MAGNETRON REMOVAL

1. CARRY OUT 3D CHECKS.
2. Disconnect the H.V. wire B and filament lead of the transformer from the magnetron.
3. Remove the one (1) screw holding the chassis support to the magnetron.
4. Move the air intake duct to left.
5. Carefully remove four (4) screws holding the magnetron to the waveguide, when removing the screws hold the magnetron to prevent it from falling.
6. Remove the magnetron from the waveguide with care so the magnetron antenna is not hit by any metal object around the antenna.

CAUTION: WHEN REPLACING THE MAGNETRON, BE SURE THE R.F. GASKET IS IN PLACE AND THE MAGNETRON MOUNTING SCREWS ARE TIGHTENED SECURELY.

CONTROL PANEL ASSEMBLY REMOVAL

1. CARRY OUT 3D CHECKS.
2. Disconnect the wire leads and the connectors from the control unit.
3. Lift up the control panel assembly and pull it forward. Now the control panel assembly is free.

Switch unit

4. Disconnect the connector CN-G from the control unit.
5. Remove the four (4) screws holding the control unit to the control panel frame.
6. Remove the rotary knob from the control unit.
7. Now, the control unit is free.
8. Remove the four (4) screws holding the switch unit to the control panel frame.
9. Now, switch unit is free.

POSITIVE LOCK® CONNECTOR REMOVAL

1. CARRY OUT 3D CHECKS.
2. Push the lever of positive lock® connector.
3. Pull down on the positive lock® connector.

CAUTION: WHEN YOU (SERVICE ENGNEERS) CONNECT THE POSITIVE LOCK® CONNECTORS TO THE TERMINALS, CONNECT THE POSITIVE LOCK® SO THAT THE LEVER FACES YOU.

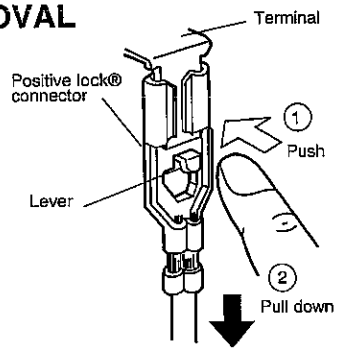


Figure C-1. Positive lock®connector

FAN MOTOR REPLACEMENT

REMOVAL

1. CARRY OUT 3D CHECKS.
2. Remove the one (1) screw holding the noise filter to the chassis support.
3. Release the noise filter from the tabs of the fan duct.
4. Remove the two (2) screws holding the chassis support to the oven cavity front flange and the magnetron.
5. Remove the chassis support from the oven cavity.
6. Disconnect the wire leads from the fan motor.
7. Remove the one (1) screw holding the capacitor holder to the oven cavity back plate.
8. Remove the one (1) screw holding the fan duct to the oven cavity back plate.
9. Release the tabs of the capacitor holder from the fan duct.
10. Remove the fan duct from the oven.
11. Remove the fan blade from the fan motor shaft according to the following procedure.
    1) Hold the edge of the rotor of the fan motor by using a pair of groove joint pliers.

CAUTION:

- **Make sure that no swarf from the rotor enters the gap between the rotor & startor of the fan motor.**
- **Avoid touching the coil of the fan motor with the pliers as the coil may become cut or damaged.**
- **Avoid deforming the bracket whilst using the pliers.**

2) Remove the fan blade assembly from the shaft of the fan motor by pulling and rotating the fan blade with your hand.
3) Now, the fan blade is free.

CAUTION:

- **Do not reuse the removed fan blade as the fixing hole may be oversize.**

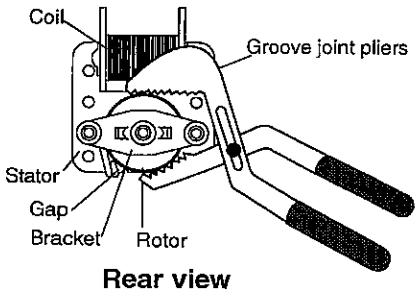
12. Remove the two (2) screws holding the fan motor to the fan duct.
13. Now, the fan motor is free.

INSTALLATION

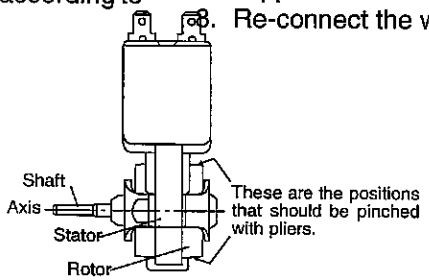
1. Install the the fan motor to the fan duct with the two (2) screws.
2. Install the fan blade to the fan motor shaft according to the following procedure.
   1) Hold the centre of the bracket which supports the shaft of the fan motor on a flat table.
   2) Apply the screw lock tight into the hole (for shaft) of the fan blade.
   3) Install the fan blade to the shaft of fan motor by pushing the fan blade with a small, light weight, ball peen hammer or rubber mallet.

   CAUTION:

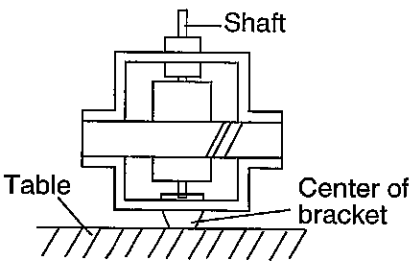
   - **Do not hit the fan blade when installing because the bracket may be deformed.**
   - **Make sure that the fan blade rotates smoothly after installation.**
   - **Make sure that the axis of the shaft is not slanted.**
3. Insert the tabs of the capacitor holder to the fan duct.
4. Install the fan duct to the oven cavity back plate with the one (1) screw.
5. Install the capacitor holder to the oven cavity back plate with the one (1) screw.
6. Re-install the chassis support to the oven cavity and the magnetron with the two (2) screws.
7. Install the noise filter to the fan duct and the chassis support with the one (1) screw.
8. Re-connect the wire leads to the fan motor.



Rear view



Side view



TURNTABLE MOTOR REPLACEMENT

Removal

1. Disconnect the oven from the power supply.
2. Remove the turntable from the oven cavity.
3. Turn the oven over.
4. Cut the four (4) bridges holding the turntable motor cover to the base plate with cutting pliers as shown in Figure C-2(a).

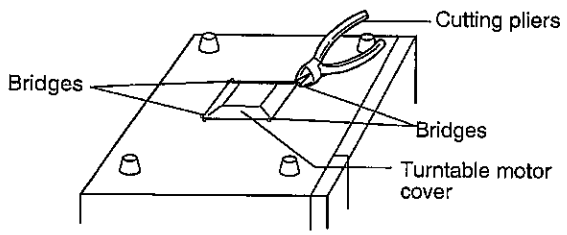


Figure C-2(a). Turntable motor cover removal

CAUTION:
WHERE THE CORNERS HAVE BEEN SNIPPED OFF BEND CORNER AREAS FLAT. NO SHARP EDGE MUST BE EVIDENT AFTER REMOVAL OF TT MOTOR COVER.

DO NOT DROP THE TURNTABLE MOTOR COVER INTO THE OVEN AFTER CUTTING THE BRIDGES. BECAUSE IT WILL DAMAGE THE WIRE LEADS OF THE MOTOR AND IT IS DIFFICULT TO REMOVE IT OUT OF THE OVEN.

5. Remove the turntable motor cover from the base plate.
6. Disconnect the wire leads from the turntable motor.
7. Remove the one (1) screw holding the turntable motor to the turntable motor angle.
8. Remove the turntable motor from the turntable motor angle. Now, the turntable motor is free.

Re-install

1. Remove the any sharp edges on the turntable motor cover and the base plate with the cutting pliers.
2. Re-install turntable motor by locating shaft onto turntable motor shaft to the turntable motor angle with the one (1) screw.
3. Re-connect the wire leads to the turntable motor.
4. Insert the two (2) tabs of the turntable motor cover into the slits of the base plate as shown in Figure C-2(b).
5. Re-install the turntable motor cover to the base plate with the screw (LX-EZA045WRE0) as shown in Figure C-2(b).

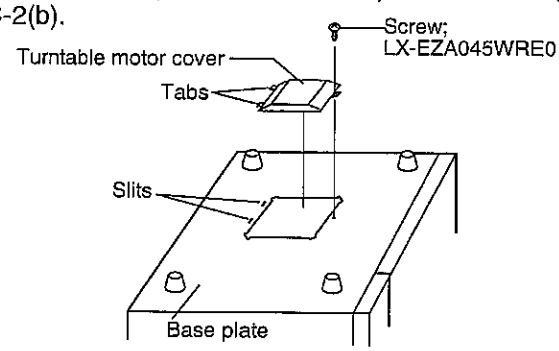


Figure C-2(b). Turntable motor cover re-install

COMPONENT REPLACEMENT AND ADJUSTMENT PROCEDURE

TURNTABLE COUPLING REMOVAL

1. Remove the turntable motor, refer to "Turntable Motor Removal".
2. Pull the coupling out of the hole in the oven cavity.
3. At that time the turntable coupling will be free.

CAUTION: REPLACE THE PACKING AT THE SAME TIME WHEN REPLACING THE COUPLING. BECAUSE THE PACKING MAY BE DAMAGED WHEN THE COUPLIN IS PULLED.

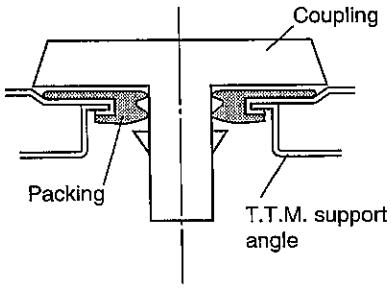


Figure C-3. Turntable Coupling

POWER SUPPLY CORD REPLACEMENT

Removal

1. CARRY OUT 3D CHECKS.
2. Remove the one (1) screw holding the green/yellow wire to the cavity back plate.
3. Disconnect the leads of the power supply cord from the noise filter, referring to the Figure C-4(a).
4. Release the power supply cord from the rear cabinet.
5. Now, the power supply cord is free.

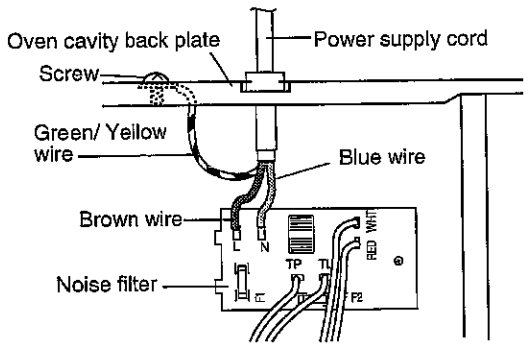


Figure C-4 (a) Replacement of Power Supply Cord

Re-install

1. Insert the moulding cord stopper of power supply cord into the square hole of the power angle, referring to the Figure C-4(b).
2. Install the earth wire lead of power supply cord to the oven cavity with one (1) screw and tight the screw.
3. Connect the brown and blue wire leads of power supply cord to the noise filter correctly, referring to the Pictorial Diagram.

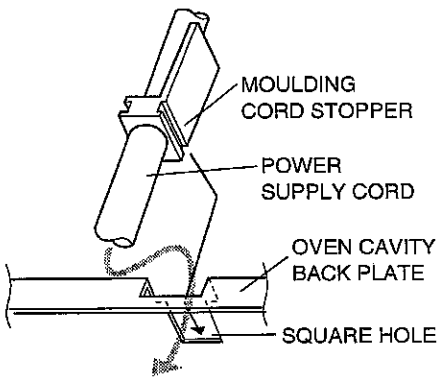


Figure C-4(b). Power Supply Cord Replacement

OVEN LAMP SOCKET REMOVAL

1. CARRY OUT 3D CHECKS.
2. Remove the wire leads as Positive lock® connector removal above.
3. Lift up the oven lamp from its retaining clips.
4. Now, the oven lamp is free.

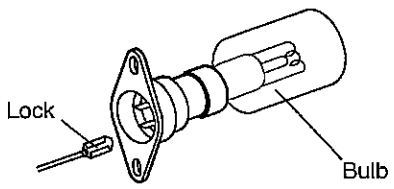


Figure C-5. Oven lamp

GRILL HEATING ELEMENT REMOVAL

1. CARRY OUT 3D CHECKS.
2. Remove the one (1) screw holding the exhaust duct to the oven cavity.
3. Remove the exhaust duct from the oven cavity.
4. Remove the two (2) screws holding the two (2) terminals of the main wire harness to the grill heating element.
5. Remove the two (2) screws holding the two (2) grill heater angles to the top of the oven cavity.
6. Remove the two (2) grill heater angles from the oven cavity.
7. Remove the grill heating element from the top of the oven cavity.
8. Now the grill heating element is free.

MONITORED LATCH SWITCH, MONITOR SWITCH AND STOP SWITCH REMOVAL

1. CARRY OUT 3D CHECKS.
2. Remove the control panel assembly referring to "CONTROL PANEL ASSEMBLY REMOVAL".
3. Disconnect the leads from all switches.
5. Remove the two (2) screws holding the latch hook to the oven cavity.
6. Remove the latch hook.
7. Push the retaining tab slightly and remove switch.
8. Now the switch(es) is free.

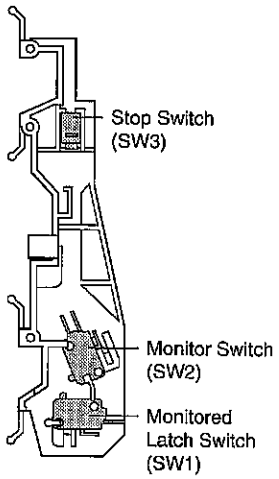


Figure C-6. Switches

MONITORED LATCH SWITCH, STOP SWITCH AND MONITOR SWITCH ADJUSTMENT

If the monitored latch switch, stop switch and monitor switch do not operate properly due to a mis-adjustment, the following adjustment should be made.

1. CARRY OUT 3D CHECKS.
2. Loosen the two (2) screws holding the latch hook to the oven cavity front flange.
3. With the door closed, adjust the latch hook by moving it back and forward, or up and down. In and out play of the door allowed by the latch hook should be less than 0.5 mm. The horizontal position of the latch hook should be placed where the monitor switch has activated with the door closed. The vertical position of the latch hook should be placed where the monitored latch switch and stop switch have activated with the door closed.
4. Secure the screws with washers firmly.
5. Make sure of the monitored latch switch, stop switch and monitor switch operation. If those switches have not activated with the door closed, repeat step 1 - 4.

After adjustment, make sure of following:

1. In and out play of door remains less than 0.5 mm when latched position. First check latch hook position, pushing and pulling upper position of the door toward the oven face. The results (play of the door) should be less than 0.5mm.
2. The contacts (COM-NO) of monitored latch switch and stop switch interrupt the circuit before the door can be opened.
3. The contacts (COM-NC) of the monitor switch close when door is opened.
4. Re-install outer case and check for microwave leakage around the door with an approved microwave survey meter. (Refer to Microwave Measurement Procedure.)

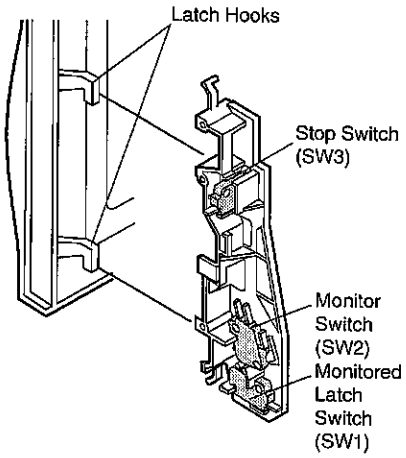


Figure C-7 Latch Switches Adjustment

DOOR REPLACEMENT

REMOVAL

1. CARRY OUT 3D CHECKS.
2. Pull the door handle to open the door.
3. Insert an putty knife (thickness of about 0.5mm) into the gap between the choke cover and door frame as shown in Figure C-8 to free engaging parts.
4. Release choke cover from door panel.
5. Now choke cover is free.

NOTE: When carring out any repair to the door, do not bend or warp the slit choke (tabs on the door panel assembly) to prevent microve leakage.

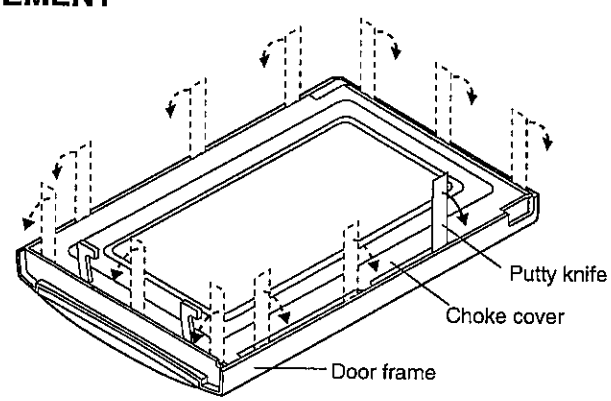


Figure C-8. Door Disassembly

6. Release two (2) pins of door panel from two (2) holes upper and lower oven hinges by lifting up.
7. Now, door sub assembly is free from oven cavity.
8. Remove the six (6) screws holding the door panel to the door frame.
9. Now, door panel is free.
10. Slide latch head upward and remove it from door frame, releasing latch spring from door frame and latch head.
11. Now, latch head and latch spring are free.
12. Remove the one (1) screw holding the glass stopper to the door frame.
13. Remove the glass stopper from the door frame.
14. Slide the front door glass upwards and then rightwards.
15. Remove the door glass from the door frame.
16. Remove the handle covers A and B from the door frame.
17. Now, the door frame is free

RE-INSTALL

1. Re-install the front door glass to the door frame as follows.
   1) Insert the upper edge of the front door glass into the door frame.
   2) Slide the front door glass downwards into the door frame and then leftwards.
   3) Re-install the glass stopper to the door frame with one (1) screw.
2. Re-install the handle covers A and B to the door frame.
3. Re-install the latch spring to the latch head. Re-install the latch spring to the door frame. Re-install latch head to door frame.
4. Fit the door panel to the door frame with six (6) screws.
5. Insert two (2) pins of door panel on two (2) holes of upper and lower oven hinges.
6. Re-install choke cover to door panel.

Note: After any service to the door;

(A) Make sure that the monitor switch, monitored latch switch and stop switch are operating properly.

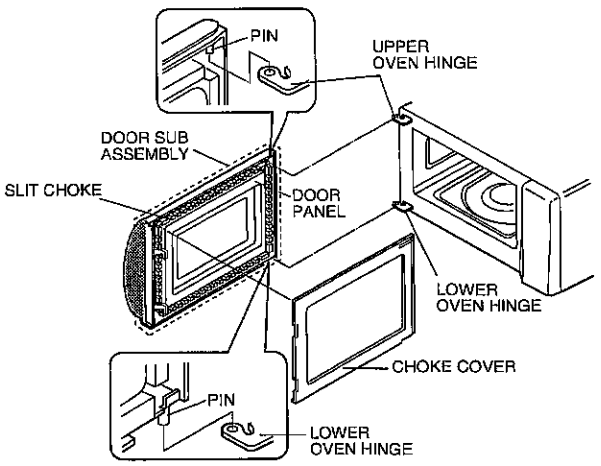


Figure C-9. Door Replacement

NOTE: When carrying out any repair to the door, do not bend or warp the slit choke (tabs on the door panel assembly) to prevent microwave leakage.

TEST DATA AT A GLANCE

PARTS	SYMBOL	VALUE / DATA
Special fuse	F1	20A / 250V
Fuse	F2	F 8A / 250V
Thermal cut-out (MAG.)	TC1	125°C Off
Thermal cut-out (OVEN)	TC2	145°C Off / 115°C On
Grill heating element	GH	Approx. 56 Ω / Insulation resistance > 10 MΩ
Oven lamp	OL	240–250 V 25W
High voltage capacitor	C	1.07μF AC 2100V
Magnetron	MG	Filament < 1Ω Filament – chassis ∞ ohm.
High voltage transformer	T	Filament winding < 1Ω Secondary winding Approx. 130Ω Primary winding Approx. 2 Ω

WARNING: DISCONNECT THE PLUG WHEN MEASURING RESISTANCE.

After adjustment of door latch switches, monitor switch and door are completed individually or collectively, the following leakage test must be performed with a survey instrument and it must be confirmed that the result meets the requirements of the performance standard for microwave oven.

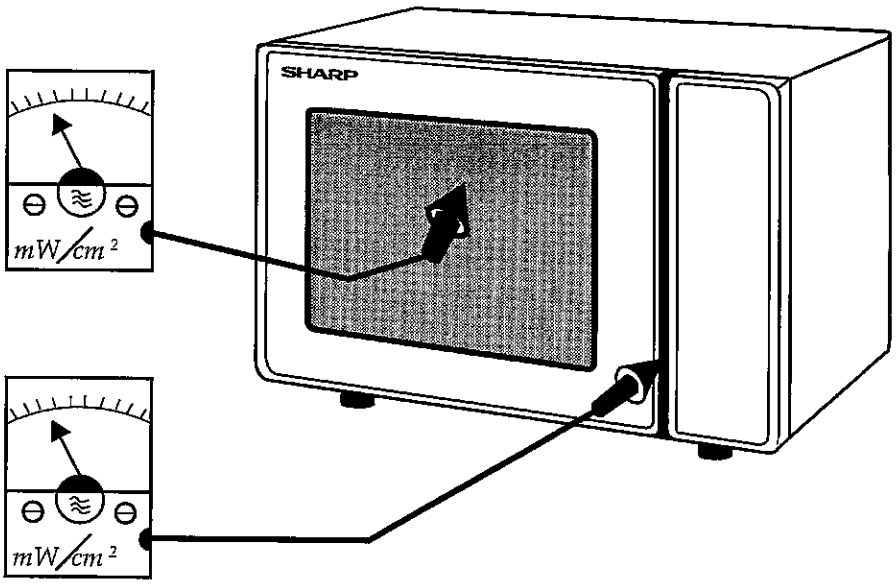
REQUIREMENT

The safety switch must prevent microwave radiation emission in excess of 5mW/cm² at any point 5cm or more from external surface of the oven.

PREPARATION FOR TESTING:

Before beginning the actual test for leakage, proceed as follows;

1. Make sure that the test instrument is operating normally as specified in its instruction booklet.
   Important:
   Survey instruments that comply with the requirement for instrumentations as prescribed by the performance standard for microwave ovens must be used for testing.
   Recommended instruments are:
   NARDA 8100
   NARDA 8200
   HOLADAY HI 1500
   SIMPSON 380M
2. Place the oven tray into the oven cavity.
3. Place the load of 275 ± 15ml of water initially at 20 ± 5°C in the centre of the oven tray. The water container should be a low form of 600 ml beaker with inside diameter of approx. 8.5cm and made of an electrically non-conductive material such as glass or plastic.
   The placing of this standard load in the oven is important not only to protect the oven, but also to insure that any leakage is measured accurately.
4. Close the door and turn the oven ON with the timer set for several minutes. If the water begins to boil before the survey is completed, replace it with 275ml of cool water.
5. Move the probe slowly (not faster that 2.5cm/sec.) along the gap.
6. The microwave radiation emission should be measured at any point of 5cm or more from the external surface of the oven.



Microwave leakage measurement at 5 cm distance

SCHEMATIC
NOTE: CONDITION OF OVEN
1. Door closed.
2. Cooking mode at microwave.
3. Timer at zero.

Note: "★ " Indicates components with potential above 250 V.

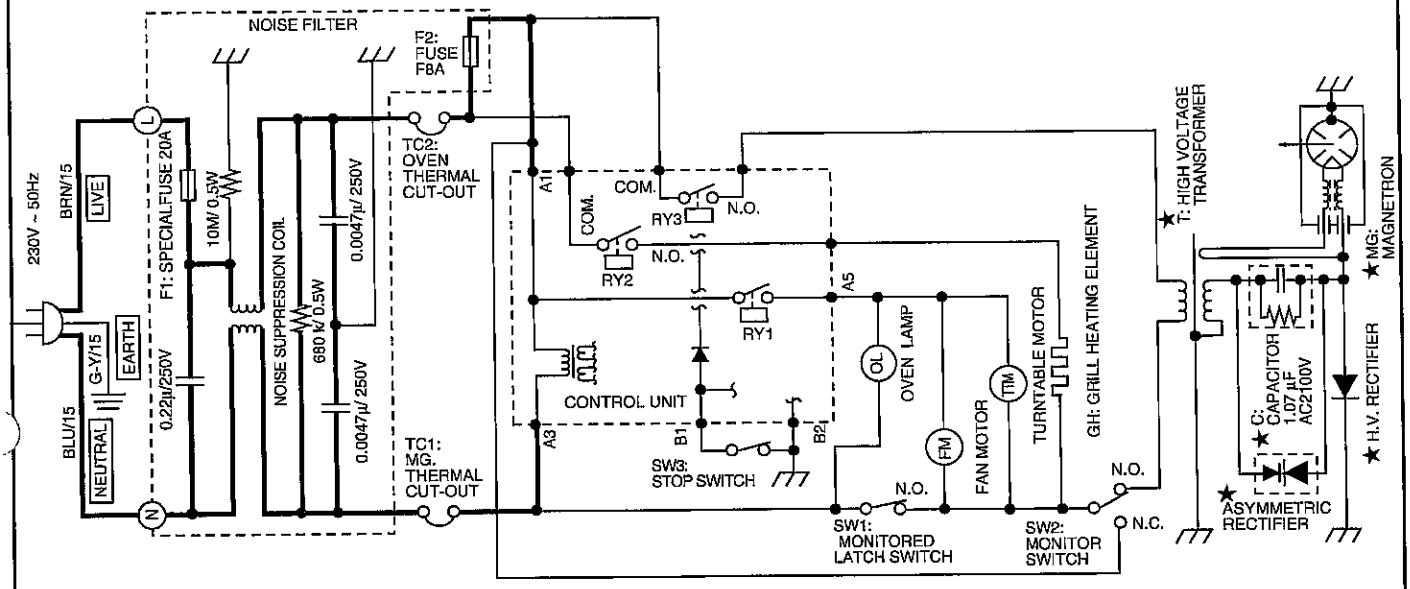


Figure O-1. Oven Schematic-OFF Condition

SCHEMATIC
NOTE: CONDITION OF OVEN
1. Door closed.
2. Cooking time set.
3. Cooking mode at microwave.
4. START button pressed.

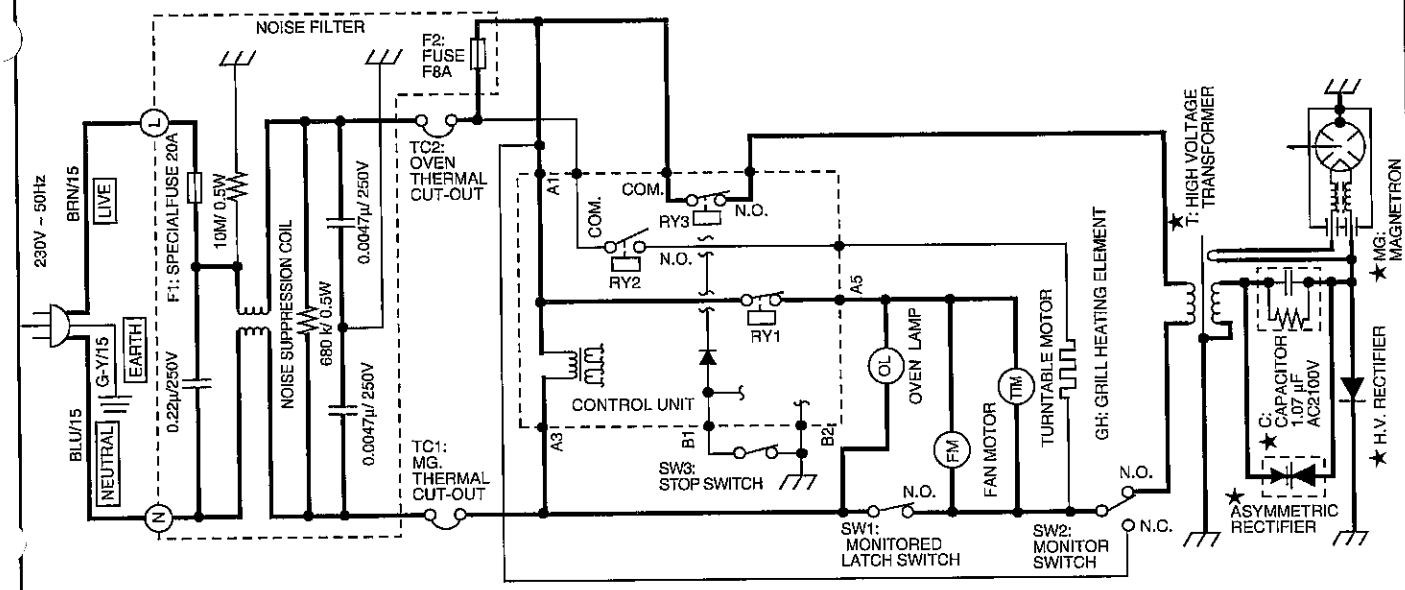


Figure O-2 Oven Schematic-Microwave cooking Condition

SCHEMATIC
NOTE: CONDITION OF OVEN
1. Door closed.
2. Cooking time set.
3. Cooking mode at Grill.
4. START button pressed.

Note: "★ " Indicates components with potential above 250 V.

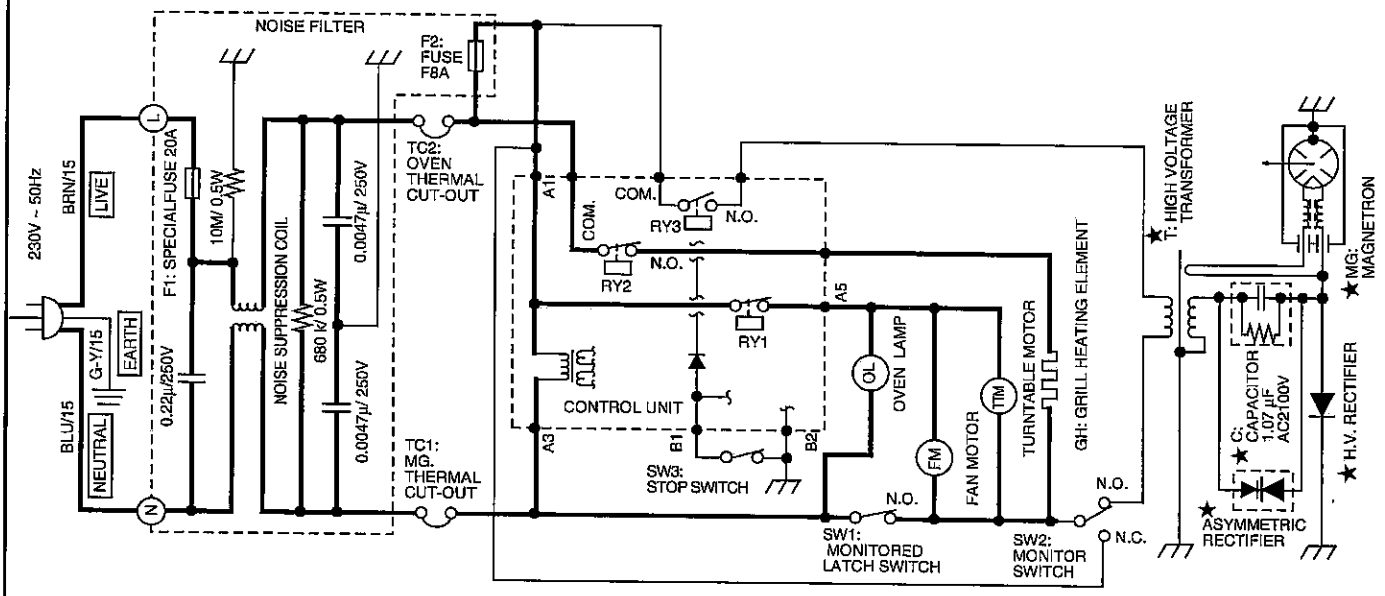


Figure O-3. Oven Schematic-Grill cooking Condition

SCHEMATIC
NOTE: CONDITION OF OVEN
1. Door closed.
2. Cooking time set.
3. Cooking mode at Dual Grill.
4. START button pressed.

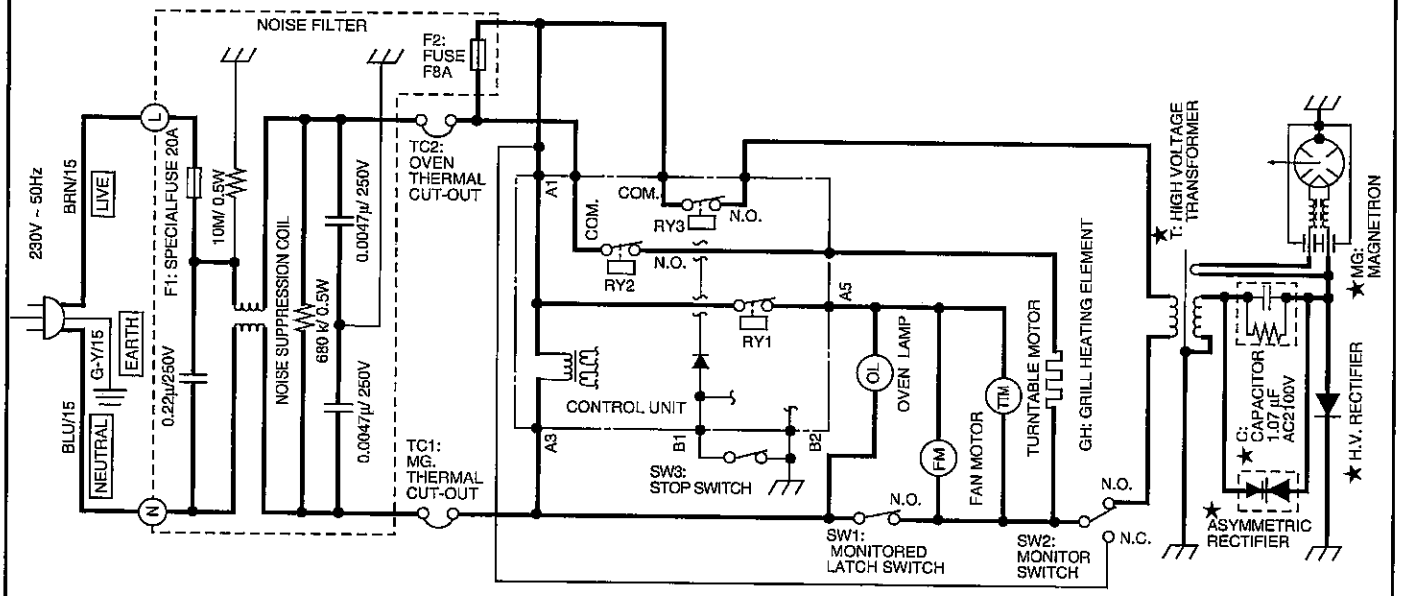


Figure O-4. Oven Schematic-Dual Cooking Condition

PICTORIAL DIAGRAM

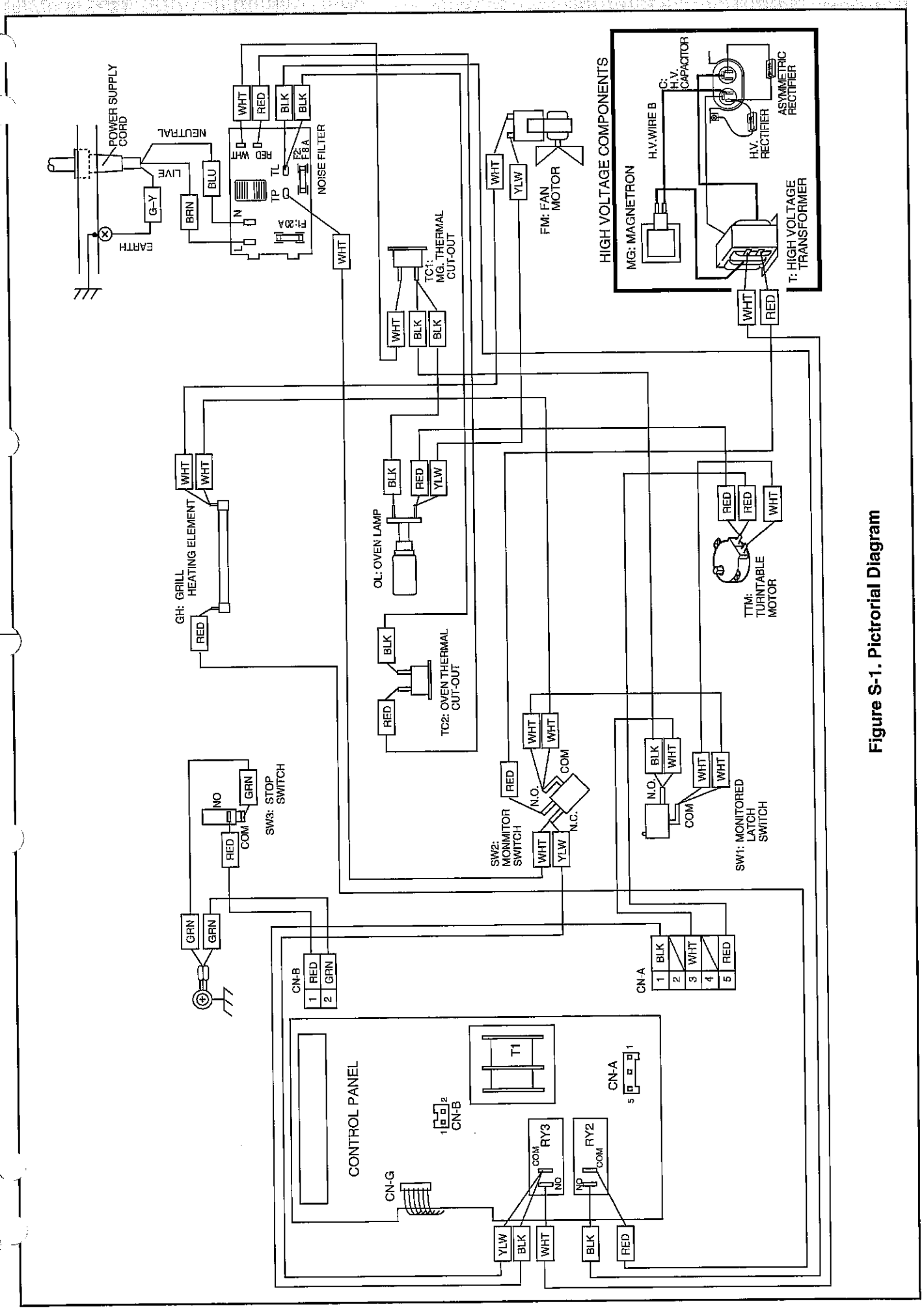


Figure S-1. Pictorial Diagram

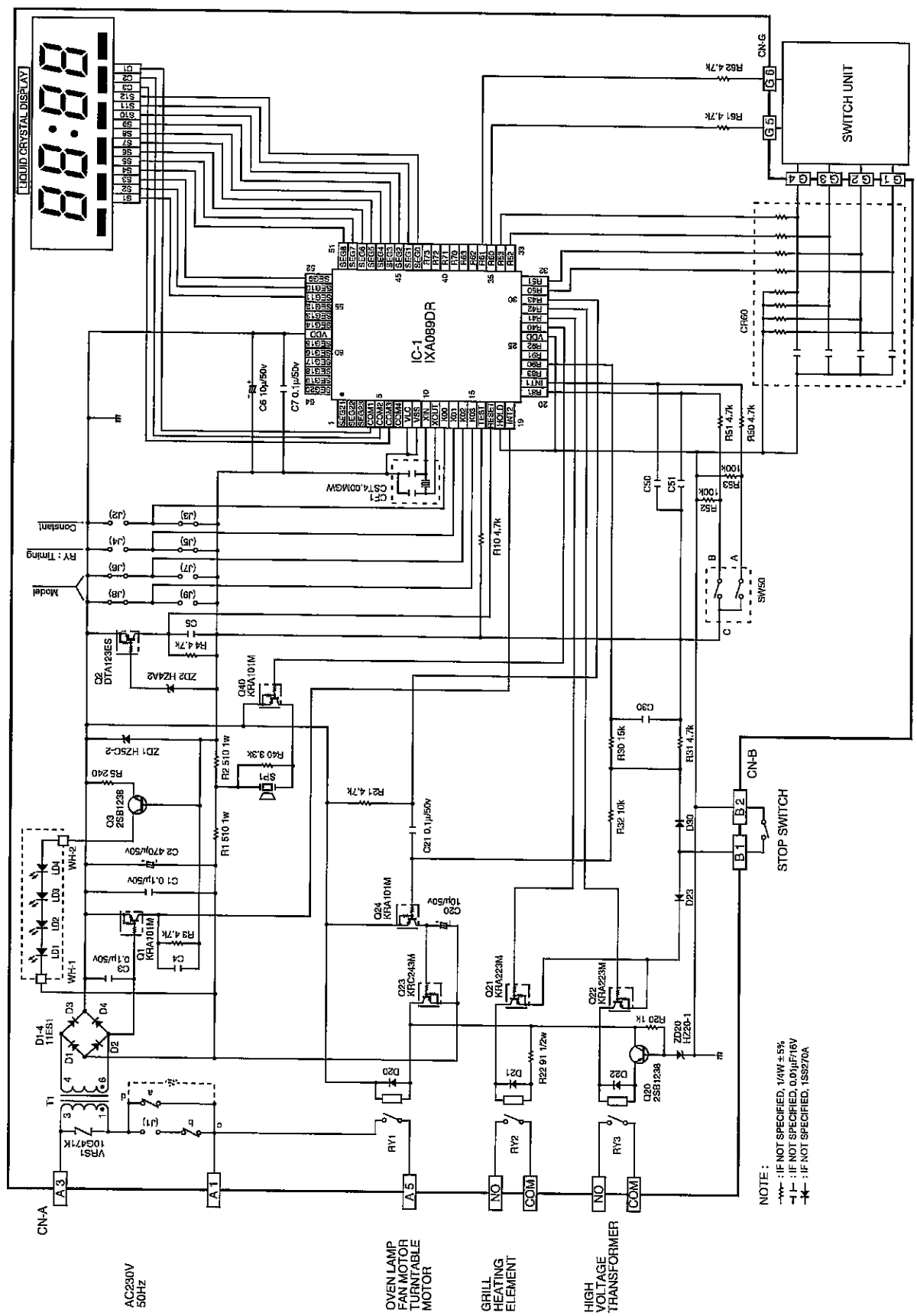


Figure S-2. Control Panel Circuit

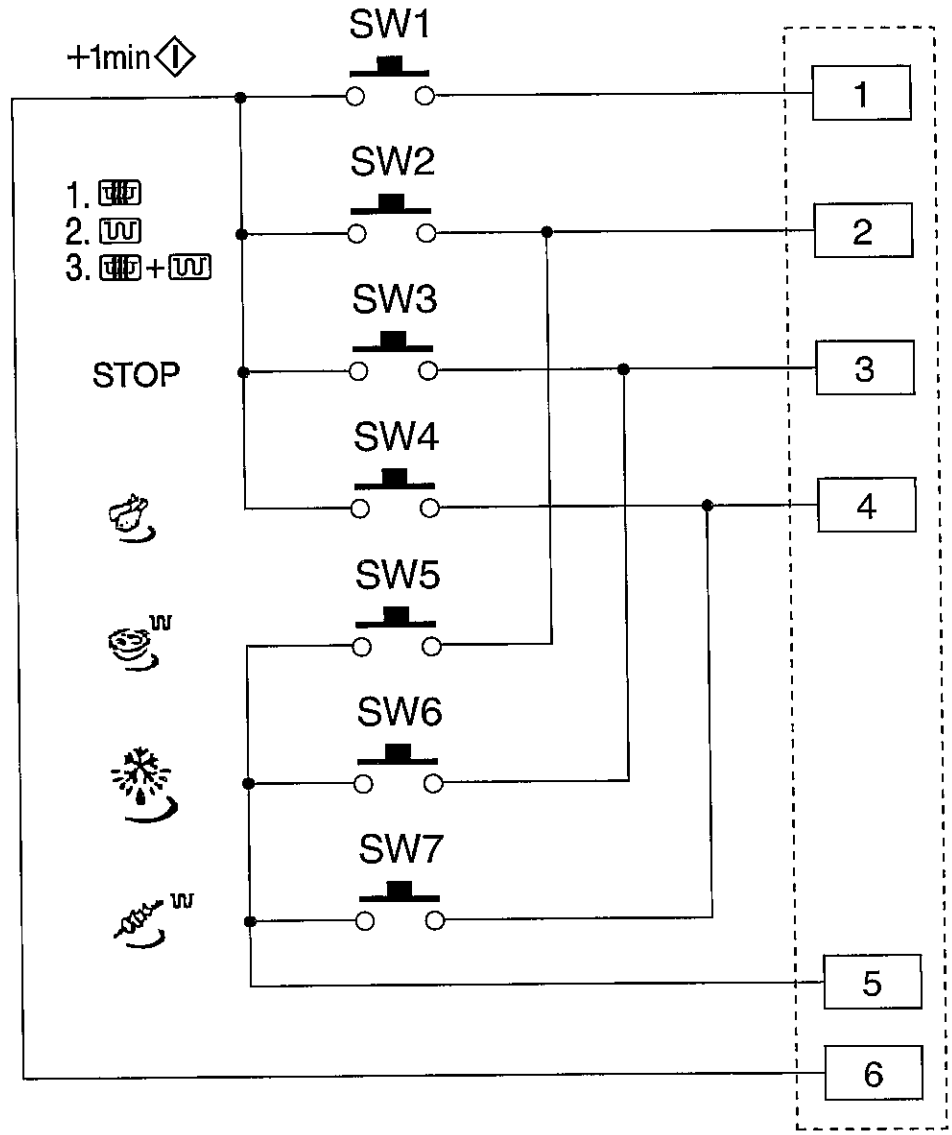


Figure S-3. Switch Unit Circuit

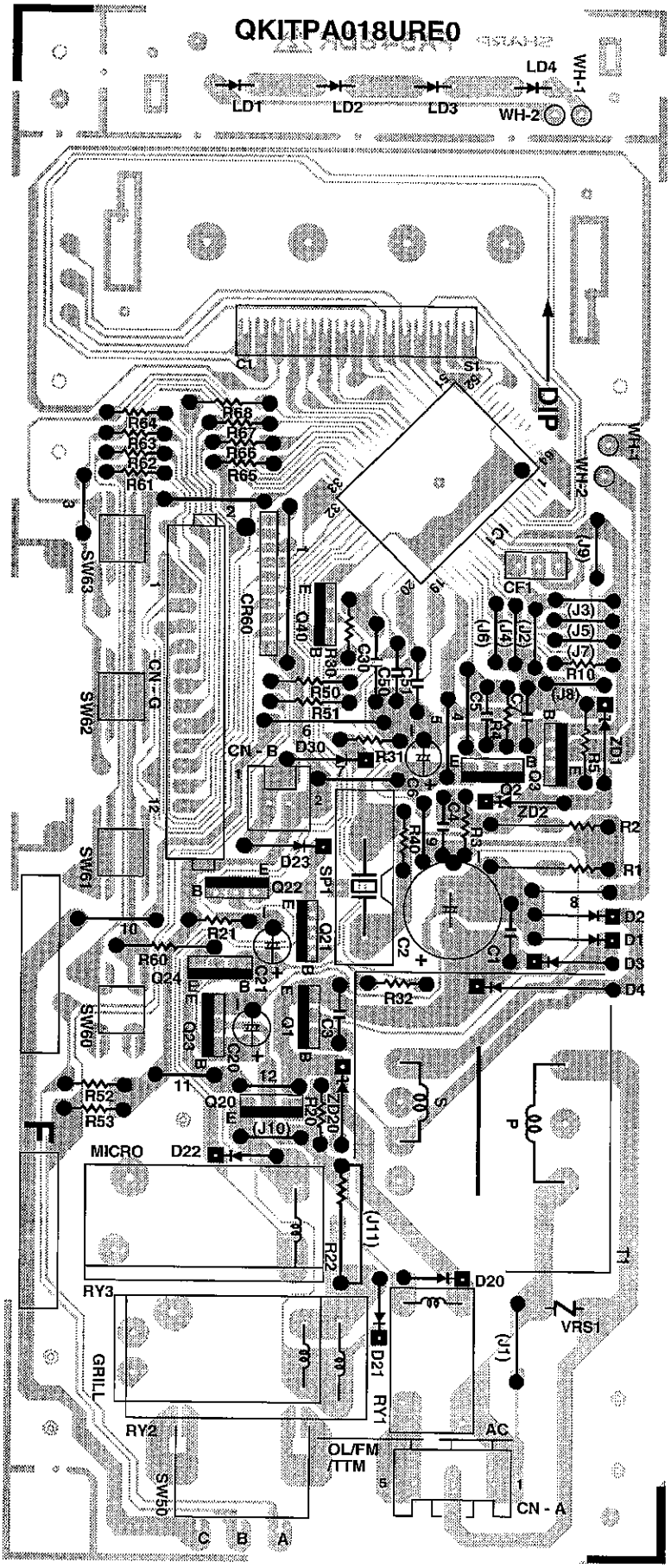


Figure S-4. Printed Wiring Board

PRINTED WIRING BOARD OF SWITCH UNIT

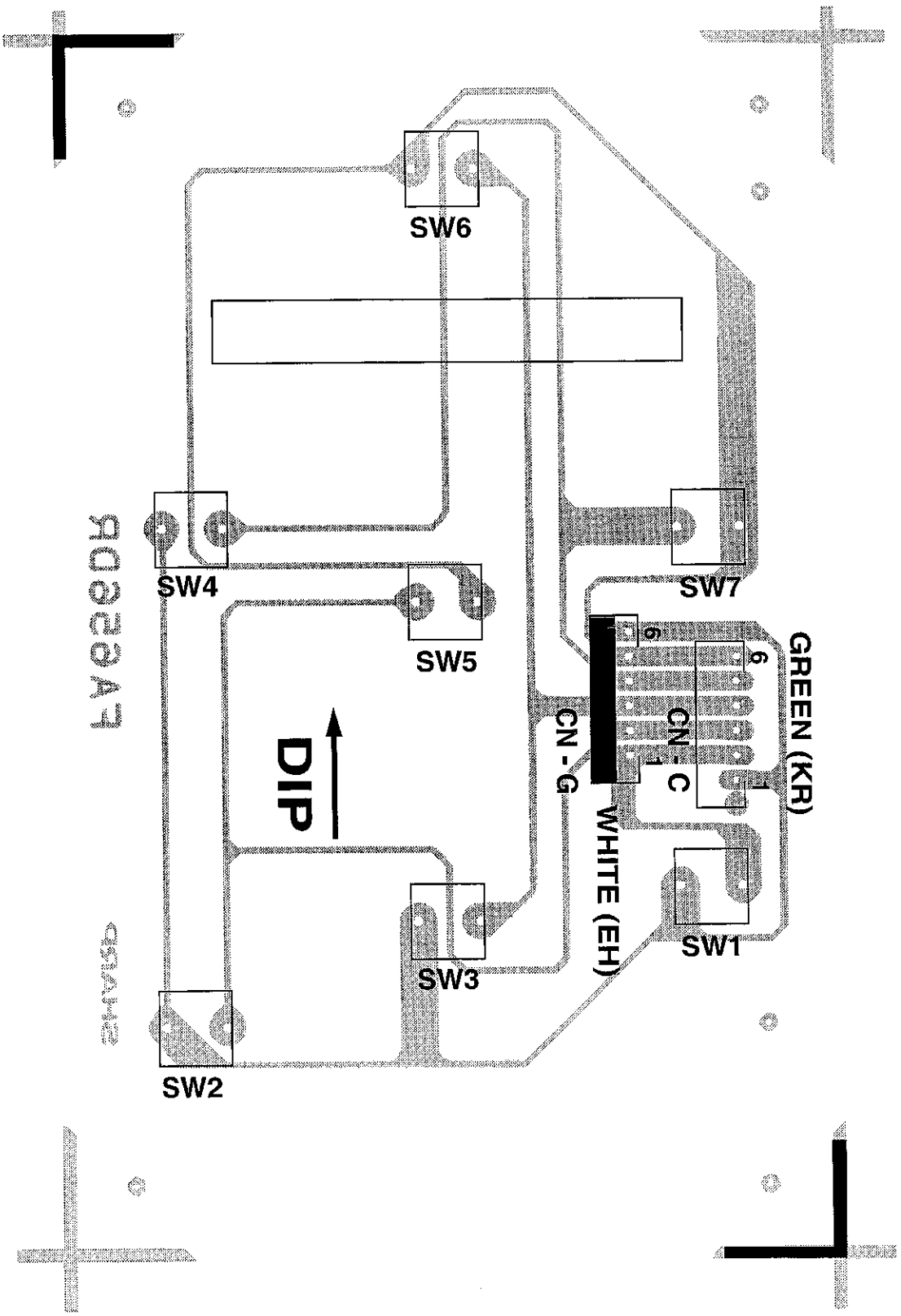


Figure S-5. Printed Wiring Board of Switch Unit

PARTS LIST

Note: The parts marked "Δ" may cause undue microwave exposure. / The parts marked "*" are used in voltage more than 250V. / "§" Mark: Spare parts delivery section

	REF. NO.	PART NO.	§	DESCRIPTION	Q'TY	CODE
				ELECTRIC PARTS		
*	C	RC-QZA252WRE0	U	High voltage capacitor	1	AP
	F1	QFS-BA009WRE0	U	Specialuse 20A	1	AC
	F2	QFS-CA025WRE0	U	Fuse F8A	1	AC
	FM	RMOTEA361WRE0	U	Fan motor	1	AT
	GH	RHET-A224WRE0	U	Grill heating element	1	AR
Δ*	MG	RV-MZA243WRE1	U	Magnetron	1	BH
	OL	RLMPTA066WRE0	U	Oven lamp	1	AK
	SW1	QSW-MA147WRZZ	J	Monitored latch switch	1	AC
	SW2	QSW-MA146WRZZ	U	Monitor switch	1	AC
	SW3	QSW-MA147WRZZ	J	Stop switch	1	AC
*	T	RTRN-A019URE0	U	High voltage transformer	1	BF
	TC1	RTHM-A098WRE0	U	Thermal cut-out 125°C (Magnetron)	1	AH
	TC2	RTHM-A124WRZZ	U	Thermal cut-out 145°C (Oven)	1	AH
	TTM	RMOTDA227WRE0	U	Turntable motor	1	AU
*	1- 1	FH-DZA035WRE0	U	High voltage rectifier assembly	1	AP
	1- 2	FPWBFA309WRE2	U	Noise filter	1	AT
	1- 3	QACCVA004URE2	U	Power supply cord	1	AQ
				CABINET PARTS		
	2- 1	GCABUA024URP0	U	Outer case cabinet [R-734(IN)]	1	AX
	2- 1	GCABUA469WRT0	U	Outer case cabinet [R-734(W)/R-734(W)F]	1	AX
	2- 2	GLEGPA028WRE0	U	Foot	4	AA
	2- 3	GDAI-A219WRP5	U	Base plate	1	AS
				CONTROL PANEL PARTS		
	3- 1	DPWBFA166URK0	U	Control unit	1	BN
	3- 1A	QCNCMA430DRE0	U	3-pin connector (CN-A)	1	AC
	3- 1B	QCNCMA414DRE0	U	2-pin connector (CN-B)	1	AB
	3- 1C	QW-QZA003URE2	U	Lead wire (WH-1, WH-2)	2	AB
	3- 1D	RLCDSA036DRE0	U	Liquid crystal display	1	AP
	3- 1E	LHLD-A002URF1	U	LCD holder	1	AC
	3- 1F	PSHEPA569WRE0	U	LED sheet	1	AC
	3- 1G	QCNCMA151DREZ	U	6-pin connector (CN-G)	1	AB
	C1	RC-KZA087DRE0	U	Capacitor 0.1 uF 50V	1	AB
	C2	VCEAG31HW477M	U	Capacitor 470 uF 50V	1	AA
	C3	RC-KZA087DRE0	U	Capacitor 0.1 uF 50V	1	AB
	C4-5	VCKYD41CY103N	U	Capacitor 0.01 uF 16V	2	AA
	C6	VCEAG31HW106M	U	Capacitor 10 uF 50V	1	AB
	C7	RC-KZA087DRE0	U	Capacitor 0.1 uF 50V	1	AB
	C20	VCEAG31HW106M	U	Capacitor 10 uF 50V	1	AB
	C21	RC-KZA087DRE0	U	Capacitor 0.1 uF 50V	1	AB
	C30	VCKYD41CY103N	U	Capacitor 0.01 uF 16V	1	AA
	C50-51	VCKYD41CY103N	U	Capacitor 0.01 uF 16V	2	AA
	CF1	RCRS-A012DRE0	U	Ceramic resonator	1	AD
	CR60	RMPTEA011DRE0	U	Capacitor array	1	AG
	D1-4	VHD11ES1//-1	U	Diode (11ES1)	4	AB
	D20-23	VHD1SS270A/-1	U	Diode (1SS270ATA)	4	AA
	D30	VHD1SS270A/-1	U	Diode (1SS270ATA)	1	AA
	IC1	RH-IXA089DRZZ	U	LSI	1	BA
	LD1-4	VHPSLZ781C9-3	U	Light emitting diode	4	AC
	Q1	VSKRA101M//-3	U	Transistor (KRA101M)	1	AA
	Q2	VSDTA123ES/-3	U	Transistor (DTA123ES)	1	AB
	Q3	VS2SB1238//-3	U	Transistor (2SB1238)	1	AD
	Q20	VS2SB1238//-3	U	Transistor (2SB1238)	1	AD
	Q21-22	VSKRA223M//-3	U	Transistor (KRA223M)	2	AB
	Q23	VSKRC243M//-3	U	Transistor (KRC243M)	1	AB
	Q24	VSKRA101M//-3	U	Transistor (KRA101M)	1	AA
	Q40	VSKRA101M//-3	U	Transistor (KRA101M)	1	AA
	R1-2	VRS-B13AA511J	U	Resistor 510 ohm 1W	2	AB
	R3-4	VRD-B12EF472J	U	Resistor 4.7k ohm 1/4W	2	AA
	R5	VRD-B12EF241J	U	Resistor 240 ohm 1/4W	1	AA
	R10	VRD-B12EF472J	U	Resistor 4.7k ohm 1/4W	1	AA
	R20	VRD-B12EF102J	U	Resistor 1.0k ohm 1/4W	1	AA
	R21	VRD-B12EF472J	U	Resistor 4.7k ohm 1/4W	1	AA
	R22	VRD-B12HA910J	U	Resistor 91 ohm 1/2W	1	AA
	R30	VRD-B12EF153J	U	Resistor 15k ohm 1/4W	1	AA
	R31	VRD-B12EF472J	U	Resistor 4.7k ohm 1/4W	1	AA
	R32	VRD-B12EF103J	U	Resistor 10k ohm 1/4W	1	AA
	R40	VRD-B12EF332J	U	Resistor 3.3k ohm 1/4W	1	AA
	R50-51	VRD-B12EF472J	U	Resistor 4.7k ohm 1/4W	2	AA
	R52-53	VRD-B12EF104J	U	Resistor 100k ohm 1/4W	2	AA
	R61-62	VRD-B12EF472J	U	Resistor 4.7k ohm 1/4W	2	AA

PARTS LIST

Note: The parts marked "Δ" may cause undue microwave exposure. / The parts marked "*" are used in voltage more than 250V. / "§" Mark: Spare parts delivery section

REF. NO.	PART NO.	§	DESCRIPTION	Q'TY	CODE
CONTROL PANEL PARTS continued					
RY1	RRLY-A080DRE0	U	Relay (OJ-SH-124LM)	1	AG
RY2	RRLY-A118DRE0	U	Relay (DU18D1-1PR(M))	1	AG
RY3	RRLY-A122DRE0	U	Relay (DU18D1-1P(M)-R-S)	1	AG
SP1	RALM-A014DRE0	U	Buzzer (PKM22EPT-THAI)	1	AG
SW50	RVR-BA018WRE0	U	Encoder	1	AH
T1	RTRNPA112DRE0	U	Transformer	1	AP
VRS1	RH-VZA034DRE0	U	Varistor (10G471K)	1	AD
ZD1	VHEHZ5C2///-1	U	Zener diode (HZ5C2)	1	AB
ZD2	VHEHZ4A2///-1	U	Zener diode (HZ4A2)	1	AB
ZD20	VHEHZ201///-1	U	Zener diode (HZ20-1)	1	AB
3- 2	FPWBFA054URK0	U	Switch unit	1	AW
3- 2-1	FW-VZA263DRZZ	U	6-pin harness (CN-G)	1	AF
3- 2-2	QSW-PA016DRE0	U	Tact switch (SW1-SW7)	7	AB
3- 3	HPNLCS024URR0	U	Control panel frame [R-734(IN)]	1	AV
3- 3	HPNLCW057URR0	U	Control panel frame [R-734(W)]	1	AL
3- 3	HPNLCW054URF0	U	Control panel frame [R-734(W)F]	1	AN
3- 4	GMADIA029URR0	U	Display window [R-734(W)]	1	AH
3- 4	GMADIA030URR0	U	Display window [R-734(IN)]	1	AK
3- 5	JBTN-K031URF0	U	Express button [R-734(IN)]	1	AE
3- 5	JBTN-L020URF0	U	Express button [R-734(W)]	1	AC
3- 5	JBTN-O014URF0	U	Express button [R-734(W)F	1	AG
3- 6	JBTN-K030URF0	U	Stop/Start button [R-734(IN)]	1	AE
3- 6	JBTN-W025URF0	U	Stop/Start button [R-734(W)/R-734(W)F]	1	AE
3- 7	JBTN-W027URF0	U	Frost reflector	1	AB
3- 8	JKNBKK011URF0	U	Rotary knob [R-734(IN)]	1	AC
3- 8	JKNBKW010URF0	U	Rotary knob [R-734(W)]	1	AC
3- 8	JKNBKO00URF0	U	Rotary knob [R-734(W)F]	1	AC
3- 9	XEPSD30P10XS0	U	Screw; 3mm x 10mm	8	AA
3- 10	XEPSD30P10X50	U	Screw; 3mm x 10mm	1	AA
OVEN PARTS					
Δ 4- 1	DOVN-A021URK0	U	Oven cavity	1	BH
4- 2	LBNDKA107WRP1	U	Capacitor holder	1	AD
Δ 4- 3	PHOK-A002URF1	U	Latch hook	1	AH
4- 4	NFANJA038WRE0	U	Fan blade	1	AF
4- 5	PDUC-A637WRF2	U	Fan duct	1	AL
4- 6	LANGFA155WRP7	U	Chassis support	1	AF
4- 7	PPACGA002URE0	U	Packing	1	AB
4- 8	LANGQA008URP0	U	Grill heater angle	2	AD
4- 9	PSPAGA001WRE0	U	Vibration proof cushion	1	AA
4-10	NCPL-A042WRF1	U	Coupling	1	AD
4-11	PCOVPA308WRE1	U	Waveguide cover	1	AE
4-12	PFILWA001URP0	U	Lamp filter	1	AB
4-13	PDUC-A606WRF1	U	Air intake duct	1	AK
4-14	GCABDA063WRP0	U	Back plate	1	AQ
4-15	PDUC-A514WRP0	U	Air duct	1	AH
4-16	LANGQA013URP1	U	Rear air angle	1	AC
4-17	PDUC-A008URP0	U	Exhaust duct	1	AK
DOOR PARTS					
Δ 5- 1	FDORFA287WRT1	U	Door panel assembly	1	AW
Δ 5- 2	GWAKPW035URR0	U	Door frame [R-734(W)/R-734(W)F]	1	AT
Δ 5- 2	GWAKPS023URR0	U	Door frame [R-734(IN)]	1	AX
5- 3	JHNDPL001URF0	U	Handle cover A [R-734(W)/R-734(W)F]	1	AD
5- 3	JHNDPR002URF0	U	Handle cover A [R-734(IN)]	1	AD
5- 4	JHNDPL002URF0	U	Handle cover B [R-734(W)/R-734(W)F]	1	AD
5- 4	JHNDPR003URF0	U	Handle cover B [R-734(IN)]	1	AD
5- 5	PGLSPA011URE0	U	Door glass	1	AN
5- 6	LSTPPA012URF0	U	Glass stopper	1	AB
5- 7	LSTPPA017URF0	U	Latch head	1	AG
Δ 5- 8	MSPRTA197WREZ	U	Latch spring	1	AC
5- 9	PSHEPA424WRE2	U	Door film	1	AG
5-10	GCOVHA365WRF3	U	Choke cover	1	AM
5-11	XEBSD30P08XS0	U	Screw : 3mm x 6mm	1	AA
MISCELLANEOUS					
* 6- 1	FROLPA002URK0	U	Roller stay assemby	1	AM
6- 2	NTNT-A051WRE0	U	Turntable tray	1	AN
6- 3	TINS-A249URR0	U	Instruction book	1	AS
6- 4	TLABMA176URR0	U	Menu label	1	AE
6- 5	QW-QZA210WRE1	U	High voltage wire B	1	AD
6- 6	FW-VZA087URE0	U	Main wire harness	1	AU
6- 7	TCAUHA006URR0	U	Combined caution label	1	AE

PARTS LIST

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REF. NO.	PART NO.	§	DESCRIPTION	Q'TY	CODE
			MISCELLANEOUS contin.....		
6-' 8	LHLDKA008WRF1	U	P-clip	1	AA
6- 9	FAMI-A072WRK2	U	High rack	1	AT
6-10	FAMI-A073WRK3	U	Low rack	1	AR
6-11	FW-VZA061URE0	U	Stop switch harness	1	AE
			SCREWS,NUTS AND WASHERS		
7- 1	XHPSD40P08K00	U	Screw: 4mm x 8mm	1	AA
7- 2	XHTSD40P08RV0	J	Screw: 4mm x 8mm	5	AA
7- 3	XEPSD40P25000	J	Screw: 4mm x 25mm	2	AA
7- 4	XBPWW30P05K00	J	Screw: 3mm x 5mm	2	AA
7- 5	LX-LZA011WRE0	U	S S Rivet	1	AB
7- 6	XWWSD50-06000	J	Washer: 5mm x 0.6mm	1	AA
7- 7	LX-CZA001URE0	U	Screw: 4mm x 12mm	20	AA
7- 8	XEBSD30P06000	U	Screw: 3mm x 6mm	1	AA
7- 9	XOTSE40P10000	U	Screw: 4mm x 10mm	4	AA
7-10	XFPSD50P10KS0	J	Screw: 5mm x 10mm	2	AC
7-11	LX-EZA045WRE0	J	TTM cover screw	1	AA
7-12	XOTSD40P10000	J	Screw: 4mm x 10mm	2	AA

NOTE: **IMPORTANT.** For tracebility purposes the serial number must always be recorded on the oven.
If for any reason the rating label is removed from the oven and can not be refitted, the serial number must be indelible (permanently) remarked onto the oven.
In addition the service engineer must ensure that the serial number is recorded in the customers copy of the operation manual.
The rating label is reproduced, minus the serial number, in the front of the operation manual for this purpose.

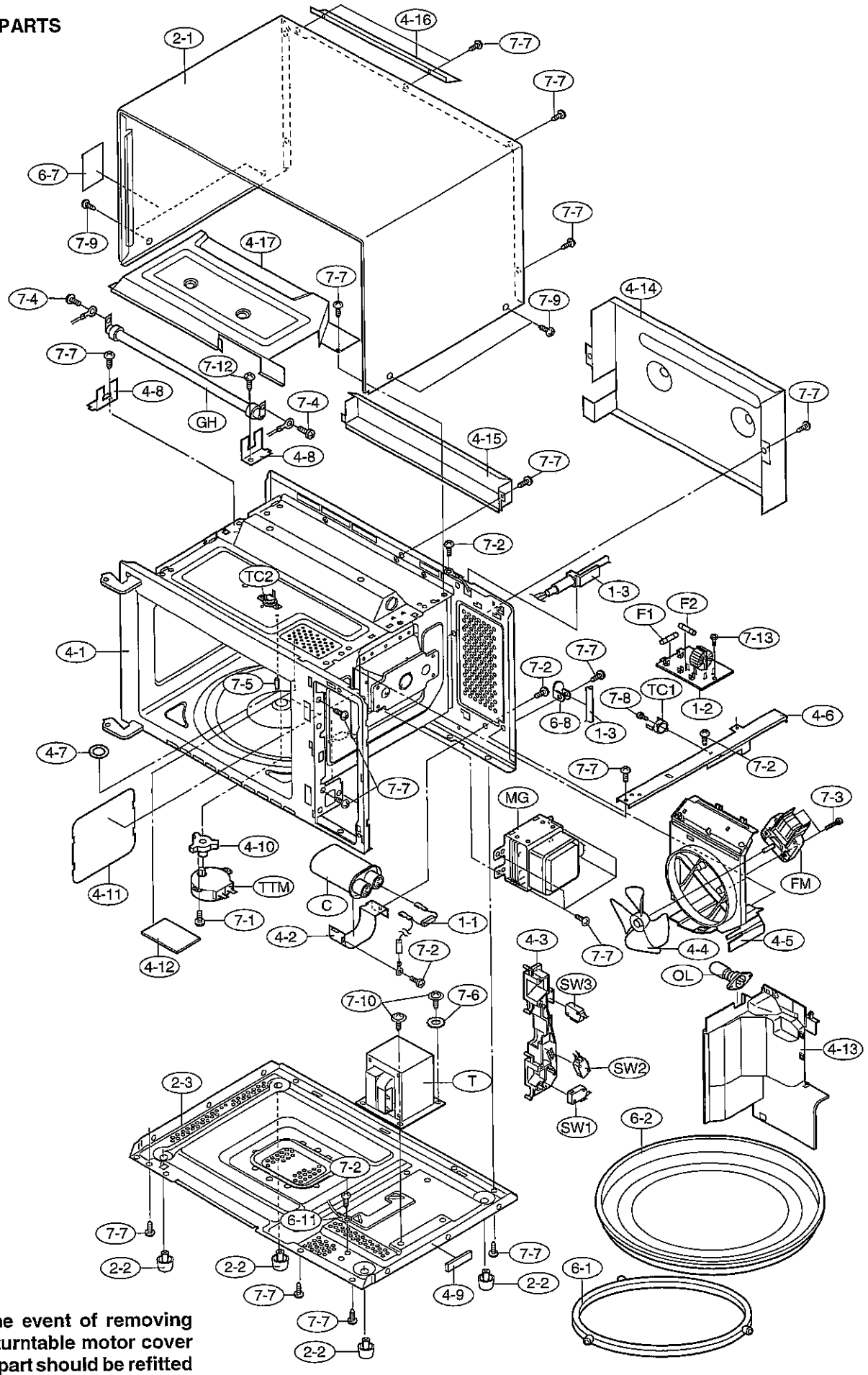
HOW TO ORDER REPLACEMENT PARTS

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

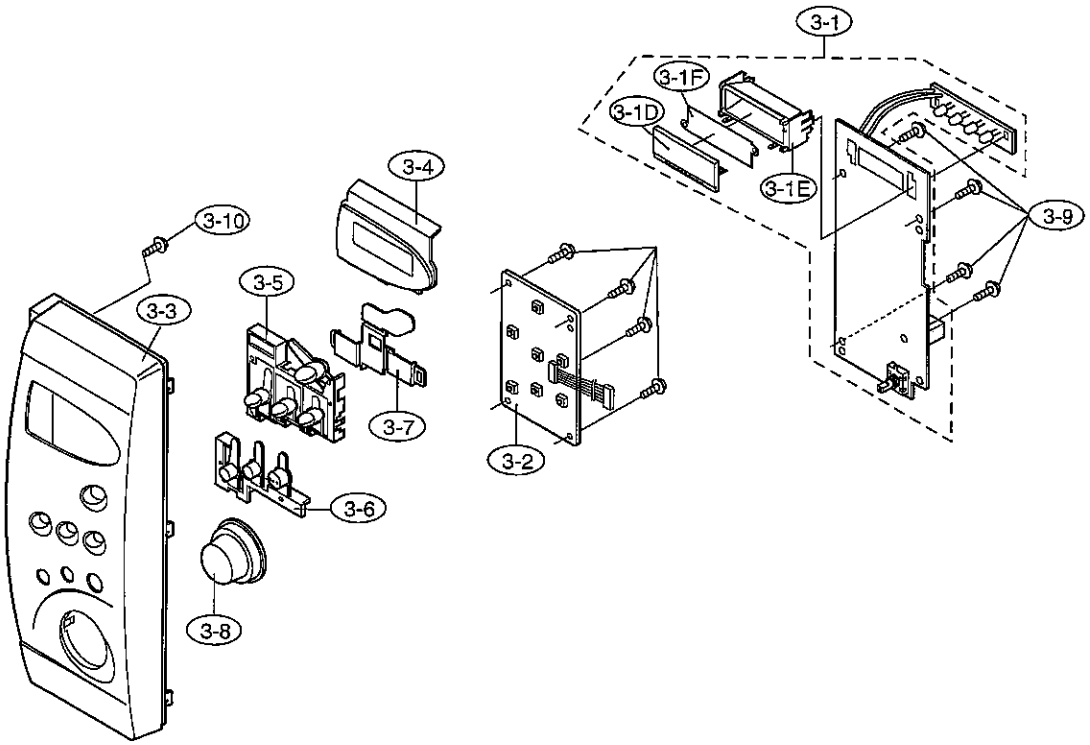
EXPLODED DIAGRAM OF OVEN PARTS

OVEN PARTS

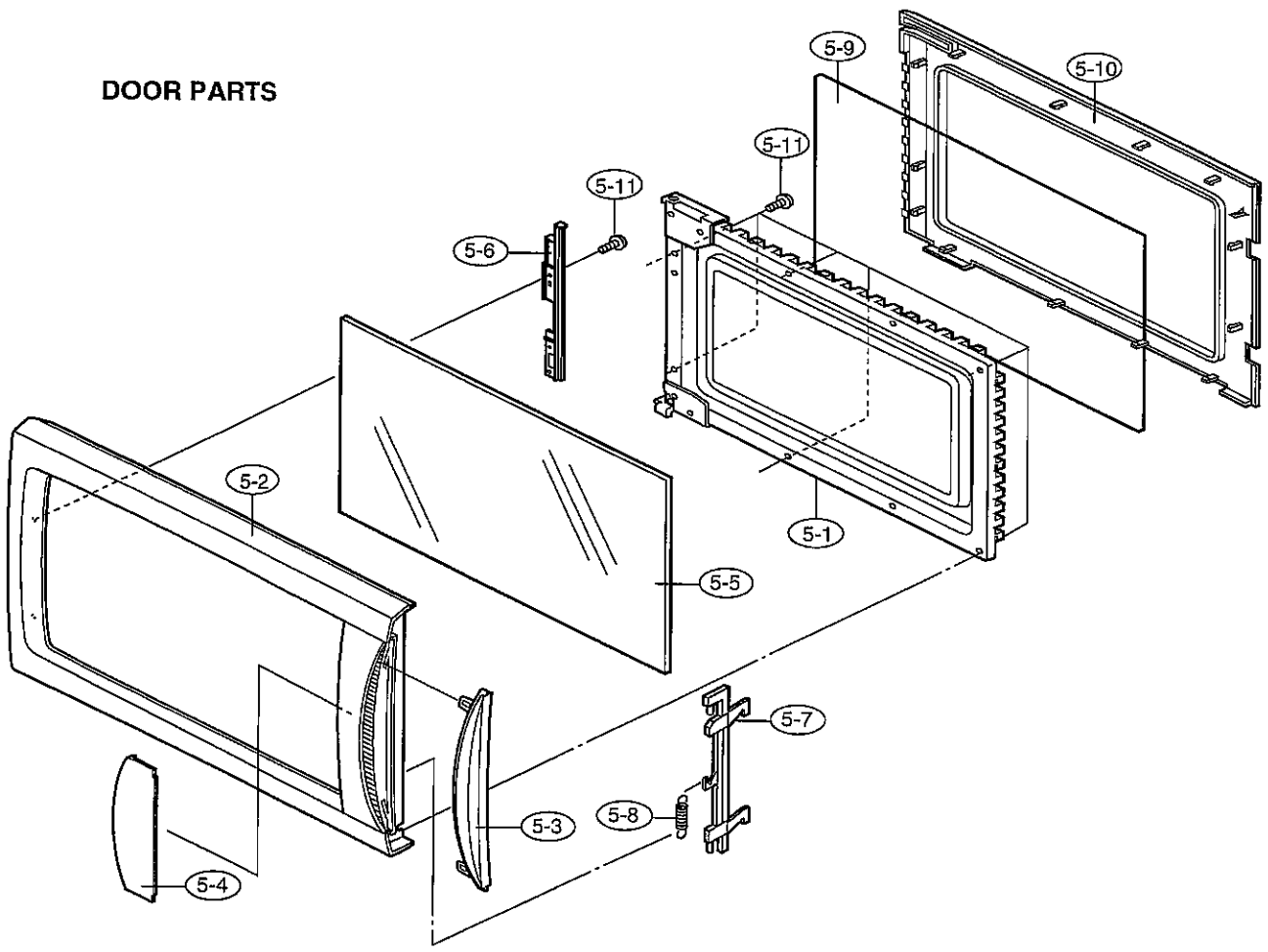


NOTE: In the event of removing the turntable motor cover this part should be refitted using screw connection: LX-EZA045WRE0 (7-11)

CONTROL PANEL PARTS

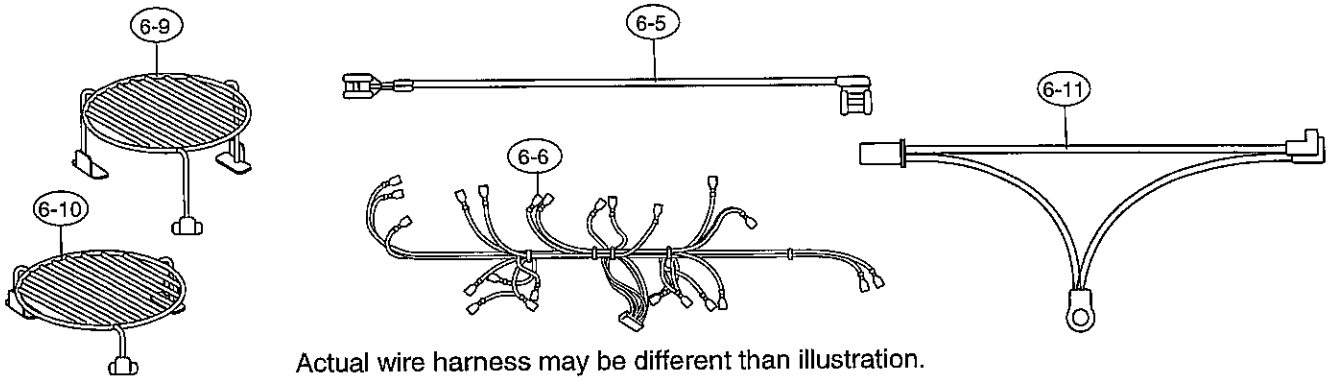


DOOR PARTS



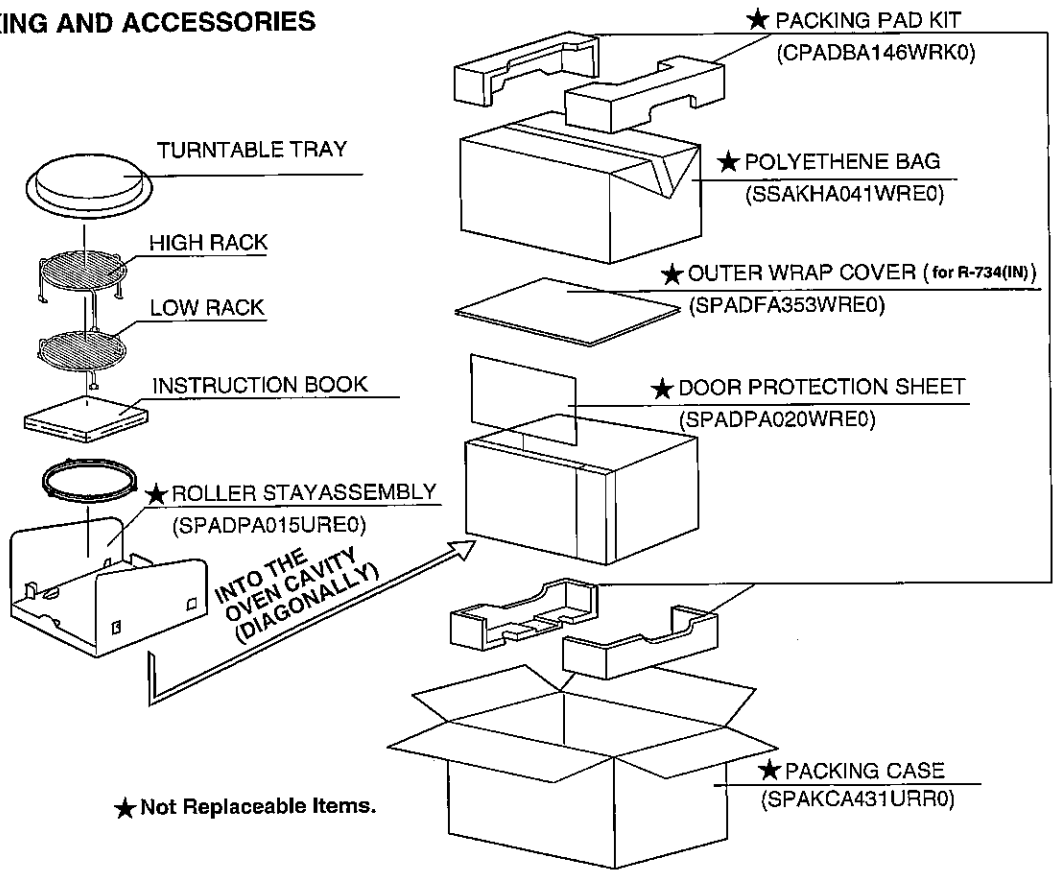
MISCELLANEOUS/PACKING AND ACCESSORIES

MISCELLANEOUS



Actual wire harness may be different than illustration.

PACKING AND ACCESSORIES



★Not Replaceable Items.

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